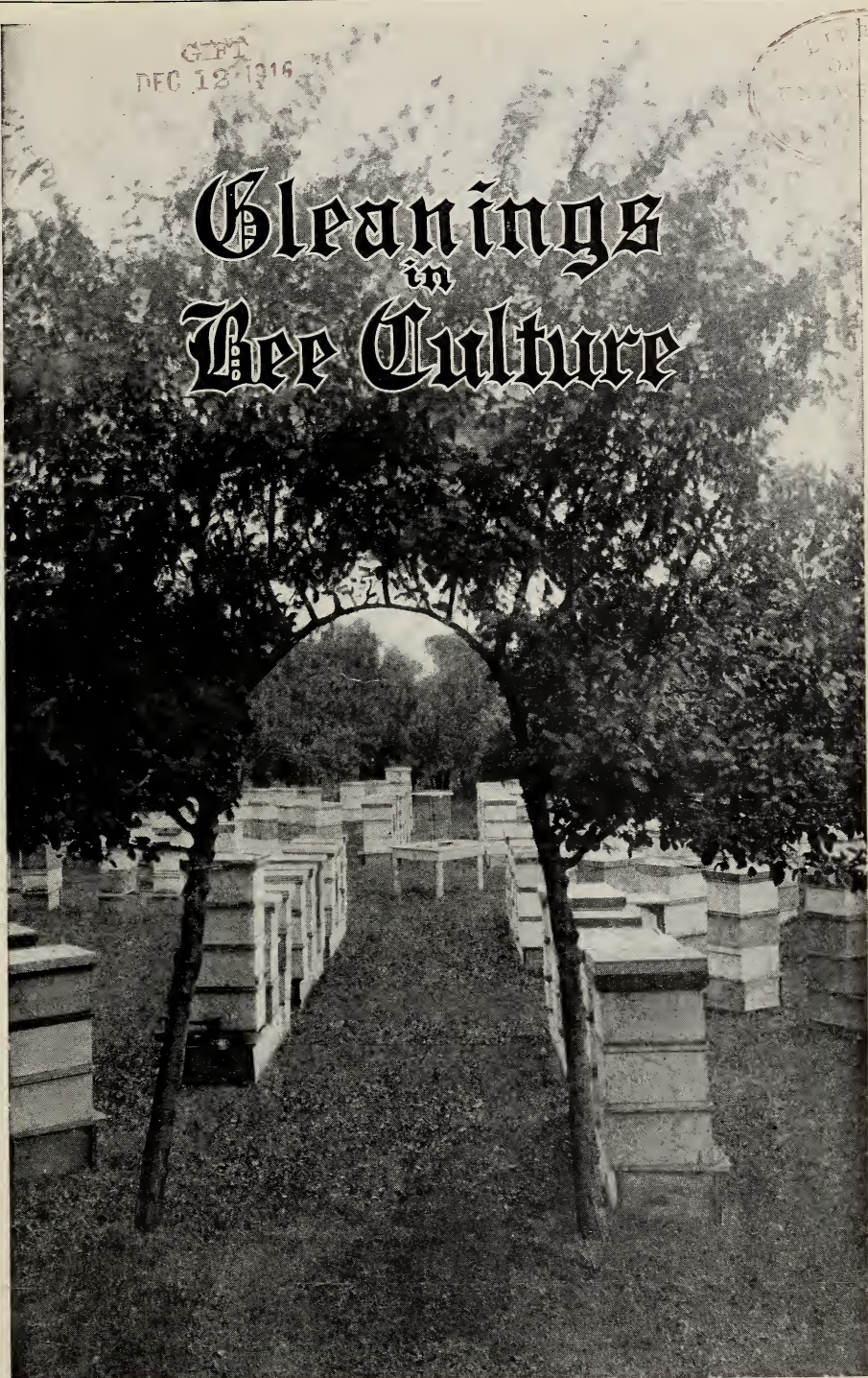


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GIFT
DEC 12 1916

Gleanings in Bee Culture



Vol. XLIV

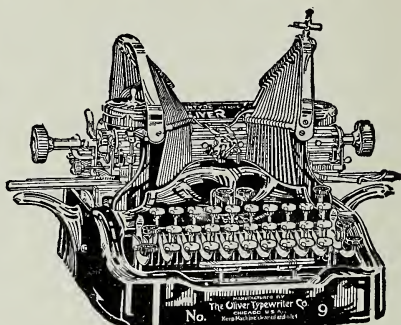
DECEMBER 1, 1916

No. 23

A NEW MODEL TYPEWRITER!

The **OLIVER** No. 9
The Standard Visible Writer

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Yes, the crowning typewriter triumph IS HERE!

It is just out --- and comes years before typewriter experts expected it. For makers have striven a lifetime to attain this ideal machine. And Oliver has won again, as we scored when we gave the world its first visible writing.

There is truly no other typewriter on earth like this new Oliver "9." Think of touch so light that the tread of a kitten will run the keys!

CAUTION!

The new-day advances that come alone on this machine are all controlled by Oliver. Even our own previous models — famous in their day — never had the Optional Duplex Shift

It puts the whole control of 84 letters and characters in the little fingers of the right and left hands. And it lets you write them all with only 28 keys, the least to operate of any standard typewriter made.

Thus writers of all other machines can immediately run the Oliver Number "9" with more speed and greater ease.

WARNING!

This brilliant new Oliver comes at the old-time price. It costs no more than lesser makes — now out-of-date when compared with this discovery.

For while the Oliver's splendid new features are costly — we have equalized the added expense to us by simplifying construction.

Resolve right now to see this great achievement before you spend a dollar for any typewriter. If you are using some other make you will want to see how much more this one does.

If you are using an Oliver, it naturally follows you want the finest model.

17 CENTS A DAY!

Remember this brand-new Oliver "9" is the greatest value ever given in a typewriter. It has all our previous special inventions—visible writing, automatic spacer, 6½-ounce touch—*plus the Optional Duplex Shift, Selective Color Attachment* and all these other new-day features.

Yet we have decided to sell it to everyone everywhere on our famous plan —17 cents a day! Now every user can easily afford to have the world's crack visible writer, with the famous PRINTYPE, that writes like print, *included FREE if desired.*

TODAY---Write for Full Details

and be among the first to know about this marvel of writing machines. See why typists, employers, and individuals everywhere are flocking to the Oliver. Just mail a postal at once. No obligation. It's a pleasure for us to tell you about it.

THE OLIVER TYPEWRITER CO., 212 Erie Bdg., Cleveland, O.

SHIPPING-CASES FOR COMB HONEY

Don't make the mistake of putting a fine lot of section honey in poor shipping-cases. It will lower the price to you and damage your future sales. "Falcon" cases are A No. 1, and will be a credit to any crop of honey. Prices are as follows:

Shipping-cases in Flat, without Glass.

No. 1...	holding 24 sections, $4\frac{1}{4} \times 1\frac{1}{2}$, showing 410, \$2.00; 100, \$18.00
No. 3...	holding 12 sections, $4\frac{1}{4} \times 1\frac{1}{2}$, showing 310, \$2.00; 100, \$18.00
No. 1½...	holding 24 sections, $4\frac{1}{4} \times 1\frac{1}{2}$, showing 410, \$1.90; 100, \$17.00
No. 6...	holding 24 sections, $3\frac{3}{4} \times 5 \times 1\frac{1}{2}$, showing 410, \$1.80; 100, \$16.00
No. 8...	holding 24 sections, $4 \times 5 \times 1\frac{1}{2}$, showing 410, \$1.80; 100, \$16.00

Shipping-cases with Glass.

		with 3-inch glass	with 2-inch glass
No. 11...	Same as No. 1... Nailed, 35c; in flat, 1, 25c; 10, \$2.30; 100, \$21.00100, \$20.00	
No. 13...	Same as No. 3... Nailed, 22c; in flat, 1, 15c; 10, \$1.40; 100, \$12.50100, \$12.00	
No. 1½...	Same as No. 1½... Nailed, 35c; in flat, 1, 25c; 10, \$2.20; 100, \$20.00100, \$19.00	
No. 16...	Same as No. 6... Nailed, 30c; in flat, 1, 22c; 10, \$2.10; 100, \$19.00	
No. 18...	Same as No. 8... Nailed, 30c; in flat, 1, 22c; 10, \$2.10; 100, \$19.00	

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W. T. FALCONER MFG. COMPANY, FALCONER, NEW YORK

where the good beehives come from.

HONEY GRADING RULES

GRADING RULES OF THE A. I. ROOT COMPANY, MEDINA, OHIO.

In harmony with the Federal net-weight regulations and the statutes of many states, all comb honey we handle is figured with the weight of the section box as well as the case excluded. To get the net weight, deduct the weight of the empty case and 1 lb. 8 oz. for the weight of 24 sections (1 oz. each).

COMB HONEY.

Extra Fancy.—Sections to be evenly filled, combs firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side. No section in this grade to weigh less than 14 oz. net. Cases must average not less than 22 lbs. net.

Fancy.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain; comb and cappings white, and not more than six unsealed cells on either side exclusive of the outside row. No section in this grade to weigh less than 13 oz. net. Cases must average not less than 21 lbs. net.

No. 1.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain; comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row. No section in this grade to weigh less than 11 oz. Cases must average not less than 20 lbs. net.

No. 2.—Combs not projecting beyond the box, attached to the side not less than two-thirds of the way around, and not more than

60 unsealed cells exclusive of the row adjacent to the box. No section in this grade to weigh less than 10 oz. net. Cases must average not less than 18 lbs. net.

CULL COMB HONEY.

Cull honey shall consist of the following: Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing pollen, honey-dew honey, honey showing signs of granulation, poorly ripened, sour or "weeping" honey; sections with combs projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched-up sections; sections weighing less than 10 oz. net.

EXTRACTED HONEY.

This must be well ripened, weighing not less than 12 lbs. per gallon. It must be well strained; and, if packed in five-gallon cans, each can shall contain sixty pounds. The top of each five-gallon can shall be stamped and labeled, "Net weight not less than 60 lbs." Bright clean cans that previously contained clean light honey may be used for extracted honey.

EXTRACTED HONEY NOT PERMITTED IN SHIPPING GRADES.

Extracted honey packed in second-hand cans, except as permitted above.

Unripe or fermenting honey, or weighing less than 12 lbs. per gallon.

Honey contaminated by excessive use of smoke.

Honey contaminated by honey-dew.

Honey not properly strained.

HONEY MARKETS

CLEVELAND.—The supply in market seems to be smaller than usual, but is equal to the demand, which is only fair. We quote fancy, per case, \$3.85 to \$4.00; No. 1, \$3.60 to \$3.75; No. 2, \$3.25 to \$3.40. Cleveland, O., Nov. 25. C. CHANDLER'S SONS.

PITTSBURG.—Receipts continue to be liberal, but no oversupply. Demand is good; extra-fancy honey, comb, is selling at \$3.75 to \$4.00; No. 1, \$3.50 to \$3.75; buckwheat, fancy, \$3.25 to \$3.50; No. 1, \$3.00. W. E. OSBORN Co.
Pittsburg, Pa., Nov. 23.

SYRACUSE.—The demand at present is not over-brisk for either comb or extracted honey. The general supply seems to be fully adequate to the demand. We quote fancy, per case, \$3.60; No. 1, \$3.36; No. 2, \$3.00. White extracted honey brings 8 to 9 cts. in small quantities; light amber, in cans, 8.
Syracuse, N. Y., Nov. 23. E. B. ROSS.

BOSTON.—There is a fair movement in both comb and extracted. We quote extra fancy comb honey per case, \$3.50 to \$3.75; fancy, \$3.25 to \$3.50; No. 1, \$3.00 to \$3.25; No. 2, \$2.00 to \$2.50. White extracted honey brings 9½ to 11½. Clean average yellow beeswax brings 28 to 30.
Boston, Mass., Nov. 23. BLAKE-LEE CO.

ALBANY.—Receipts are free, and prices favor the buyer for comb honey. Of extracted honey there is an increased demand. We quote extra fancy comb honey, per case, 15; fancy, 14; No. 1, 13; No. 2, 12. White extracted honey brings 8 to 8½; amber, in cans, 7½. Clean average yellow beeswax brings 30 to 32.
Albany, N. Y., Nov. 23. H. R. WRIGHT.

PHILADELPHIA.—We can report no appreciable change in market since last quotations. Comb is moving somewhat slowly; better inquiry for extracted honey; also buying pure clean country beeswax. We quote white extracted honey at 8 to 9; light amber, in cans, 7 to 7½; amber, in cans, 6 to 7. Clean average yellow beeswax brings 28 to 30.
Philadelphia, Pa., Nov. 22. CHAS. MUNDER.

INDIANAPOLIS.—There is very little to report regarding the honey situation, except that inquiry and demand continue active, but the volume of business is, of necessity, limited, owing to inability to obtain the honey because the supply is so depleted. We quote No. 1 comb honey, \$3.75 to \$4.00; No. 2, \$3.50. White extracted honey brings 11. Clean average yellow beeswax brings 28 to 30.
Indianapolis, Ind., Nov. 24. WALTER S. POWDER.

NEW YORK.—Fair demand exists for both comb and extracted, especially for fine white grades. We quote fancy, per case, 14 to 15; No. 1, 13 to 14; No. 2, 12 to 13. White extracted honey brings 7½ to 8½; light amber, in cans, 7 to 7½; amber, in cans, 6½ to 7; in barrels, 5½ to 6. Clean average yellow beeswax brings per lb. 31 to 32.
New York, Nov. 24. HILDRETH & SEGELKEN.

PHOENIX.—The last car of light-amber honey was shipped Nov. 11, and sold at \$7.20 per case, which was a slight advance over former shipments. Light wax is firm at 25; one cent better for choice lots. Light amber extracted, in cans, brings 6 cts. Clean average yellow beeswax brings 25 to 26.
Phoenix, Ariz., Nov. 17. WM. LOSSING.

KANSAS CITY.—The demand for honey is a trifle better, but it takes cold weather to make the demand good. We quote fancy, per case, \$3.00; No. 1, per case, \$2.90; No. 2, \$2.65. White extracted brings 9½; light amber, in cans, 8; amber, in cans, 7 to 7½. Clean average yellow beeswax brings 25.
C. C. CLEMONS PRODUCE CO.
Kansas City, Mo., Nov. 22.

PORTLAND.—Nothing new since last report. Comb honey is moving a little freer. Extracted stocks are coming in slowly; in fact, many sections have had a poor crop. We quote extra fancy, per case, \$3.50; fancy, \$3.25; No. 1, \$3.00; No. 2, \$2.75. White extracted honey, per lb., 8½; light amber, in cans, 8; amber, in cans, 7½. Clean average yellow beeswax brings 25 to 26.
Portland, Ore., Nov. 22. PACIFIC HONEY CO.

LOS ANGELES.—No supply of extracted here except for local use. We have surplus of comb, with little demand. Local prices are unchanged with little honey being used. We quote extra fancy, per case, \$4.25; fancy, \$3.85; No. 1, \$3.25; No. 2, \$2.50. White extracted honey brings 8½; light amber, in cans, 8; amber, in cans, 7. Clean average yellow beeswax brings 35.
Los Angeles, Cal., Nov. 21. GEO. L. EMERSON.

CHICAGO.—The best grades of white comb are bringing 13 to 15; off grades from 1 to 3 cts. per lb. less. Extracted is selling well, and there is no excess of supplies. The best white grades are bringing 9 cts., and those off in color or flavor are bringing 8. The best grades of light amber bring 7½ to 8, with darker grades ranging from 6 to 7. Beeswax, if free from sediment, and good color, brings 32; dark grades, 28 to 30.
Chicago, Ill., Nov. 17. R. A. BURNETT & CO.

ST. LOUIS.—The demand for comb honey, tho fair, has been very limited owing to mild weather; but extracted honey is in good demand, and the market not overstocked, especially with Southern amber. Extra fancy comb honey brings \$3.50; No. 1 comb honey, \$3.00 to \$3.25 (fancy white comb); amber comb honey, \$2.50 to \$2.75; white extracted honey, 9 to 10; light amber in cans 7½ to 8; amber in cans, 6½ to 7; amber in barrels, 5½ to 6. Beeswax is firm at 31 for average clean yellow wax.
R. HARTMAN PRODUCE CO.
St. Louis, Mo., Nov. 23.

HAMILTON.—Demand is only fair. Stock is good. We are not looking for large sales till January. We quote extra fancy comb honey, per case, \$2.50 per dozen; No. 1, \$2.25; No. 2, \$1.50 to \$1.60. White extracted brings 12 cts. in 60-lb. tins; light amber, in cans, 10.
F. W. FEARMAN CO., LTD.
Hamilton, Ont., Nov. 21. MacNab Street Branch.

TORONTO.—Prices are unchanged since last issue. Comb honey which is now on the market sells as follows: No. 1, per case, \$2.40 per doz.; No. 2, \$2.25.
Toronto, Ont., Nov. 20. EBY-BLAIN, LTD.

CUBA.—Light amber, in barrels, brings 47 cts. per gallon; amber, 47.
Matanzas, Cuba, Nov. 20. A. MARZOL.

LIVERPOOL.—The honey market in England is inclined to be on the easy side, the supply being in advance of the demand at present prices. We quote Jamaica, pale, at \$10.56 per cwt.; Jamaica, amber, \$8.88; Jamaica, liquid, dark, \$8.40 to \$9.60; St. Lucia, liquid, dark, \$8.40; Haiti, pale, \$11.04 to \$11.52; Haiti, amber, \$8.88 to \$9.84; Cuban, pale, \$10.32 to \$11.04; Cuban, darkish, \$7.92 to \$8.64; Californian, \$11.52 to \$14.40; Chilian, pile X, \$10.56 to \$11.52; Chilian, pile 1, \$9.60 to \$10.08; Chilian, pile 2, \$8.88 to \$9.36; Chilian, pile 3, \$8.04 to \$8.16. Of Chilian, 1242 barrels have just arrived—sales 1055 barrels. Beeswax is scarce, and inquired for. Chilian brings \$35.22 to \$42.48 per cwt.; Jamaica, \$37.02 to \$40.08; West African, \$38.88; Abyssinian and East African, \$40.08.
TAYLOR & COMPANY.

Liverpool, Eng., Nov. 13.

MEDINA.—Offerings of comb honey have been larger the past fortnight than for any similar period this season, and prices are ruling low. We confidently expect an improvement after Jan. 1. Extracted of the better grades is in good demand, and offerings light.
THE A. I. ROOT CO.
Medina, O., Nov. 27.

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The Guide to Nature

Send twenty-five cents for four-
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are two closely allied occupations. Beekeepers
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Established for more than 20 years. Edited by
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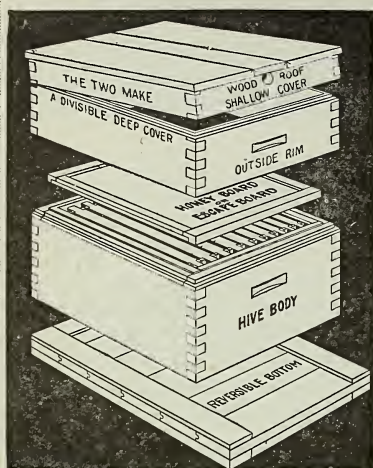
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Gleanings in Bee Culture
Medina, Ohio



PROTECTION HIVES

Price: \$14.75 for five hives, delivered to any station in the U. S. east of the Mississippi and north of the Ohio River, or \$13.00 F. O. B. Grand Rapids, Mich. Prices will have to be advanced slightly January 1.

Air spaces or packing as you prefer. Seven-eighths material in the outer wall, which means that they will last a lifetime. Used and endorsed as the best hive on the market by many prominent beekeepers of this and other countries.

Norwichtown, Conn., May 24, 1915. (Extract from letter and order) Our State Agricultural College has just been voted a sum of money to be used in the construction of an apiarian building and outfit. They are negotiating with me for some colonies, and I will furnish them in your Protection Hives, for I believe them to be the best on the market.

ALLEN LATHAM.


Send for catalog and special circulars. We are the bee-hive people. Send us a list of your requirements for 1917 and let us figure with you. We want both large and small orders. We have many pleased customers in all parts of the country.

A. G. Woodman Co., Grand Rapids, Mich.

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Our 1916 catalogs now out. Postal will bring you one. Root's goods at Root's prices. Prompt shipment.

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for manufacture into
"SUPERIOR FOUNDATION"
 on shares (Weed process)

Our terms assure cheaper foundation
SUPERIOR HONEY CO., Ogden, Utah
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The A. I. Root Co., Medina, O.

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We have a fair stock of both extracted and comb honey. Price on application. If you have honey to sell, write us. Cat. of apiarian supplies and bees free.

I. J. STRINGHAM, 105 PARK PLACE, N. Y.
 Apiaries: Glen Cove, L. I.

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Bees sometimes starve with plenty of honey in the hive. Why not avoid this risk by placing a plate or two of candy on the frames when you pack for winter. It is a good life insurance. Send for circular also catalog of supplies.

H. H. Jepson, 182 Friend St., Boston, Mass.

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Decide for yourself if this book can help you.

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Dangerous Indigestion

Indigestion, Constipation, and the more serious ills to which they lead are so common and cause so much needless pain and suffering that Dr. John Harvey Kellogg has written a book telling how to prevent and remedy such disorders. The greatest living authority on diet and digestion here gives you the results of his forty years' experience as Superintendent of the Battle Creek Sanitarium where he has studied and treated thousands of cases of indigestion and resulting ills. "Colon Hygiene" is a book of facts —not theories. Do you want to renew your energy and stamina, stop suffering from headaches and backaches, have clear eyes, a smooth, ruddy skin, feel the exhilaration of real good health tingling through your body? If so, send this coupon now for a **free examination** of this splendid book. Learn how easy it is to live life anew—to acquire the dominant personality that comes from good health—to become suffused with the joy of living. All this, and more, you may get from Dr. Kellogg's book of 400 pages, which the coupon will bring to you. This free examination offer is limited, so send the coupon **NOW** before it is withdrawn.

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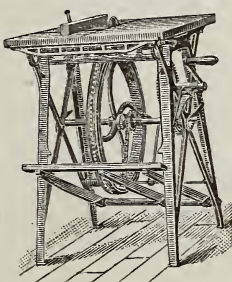
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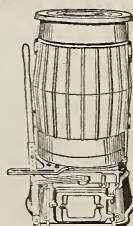


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We Remit the Day Shipments Arrive.

We are in the market to buy **FANCY AND NUMBER ONE WHITE COMB HONEY**, in no-drip glass front cases. Tell us what you have to offer and name your price delivered here.

Will also buy—

White Clover extracted and Amber extracted.

A few cars of California Water White Sage.

A few cars of California Orange Blossom.

When offering extracted honey mail us a sample and give your lowest price delivered here, we buy every time you name a good price.

We do beeswax rendering; ship us your old combs and cappings. Write us for terms.

THE FRED. W. MUTH CO.

"THE BUSY BEE MEN"

204 Walnut Street.

CINCINNATI, O.

HOW ABOUT NEXT YEAR?

The season of 1916, just closed, has been a most unusual one. Beekeepers who did not fortify themselves early in the season by securing their hives, sections, and other goods, and having their equipment ready for the bees, found when the honey season was upon them that they were up against the following conditions:

Everybody wanted bee goods, dealers had depleted stocks on account of the unusual demand, manufacturers were several weeks behind on orders, their factories were working overtime. Some beekeepers were delayed, some disappointed, some got their goods when it was too late.

Now, Mr. Beekeeper, What are You Going to do about Next Season? ? ?

Prospects for a big Bee and Honey Season next year were never better than they are right now. **PREPARE!** Order your goods this fall. Write us or our dealer nearest you for a list of new prices owing to advances in raw material.

If you are not on our mailing list, write us at once and we will send you a catalog containing name of the distributor nearest you, and in this way you will also be sure to receive a copy of our new 1917 catalog when it is issued.

Lewis Hives and Sections and all other goods are made from the best material and are scientifically manufactured.

OUR GUARANTEE.

We absolutely guarantee our goods to be perfectly manufactured of the best material for the purpose. On examination, if our goods are not as represented, we do not ask you to keep them. Return same at our expense, and we will refund your money, including any transportation charges you have paid. If you purchase our goods from one of our distributors, this same guarantee holds good, as we stand back of them.

G. B. Lewis Company, Watertown, Wisconsin, U. S. A.

Send for catalog giving name of distributor nearest you.

DON'T FUSS

With your old combs and cappings, but send them to us. We will render them into beeswax for you on shares and pay you cash for your share, or we will make it into

Dadant's Foundation

for you.

If you prefer, we will pay you our best trade price in exchange for BEE SUPPLIES.

Send for our terms. We feel sure that we can save you some money besides saving you a "mussy" job.

BEESWAX WANTED at all times.

Dadant & Sons, Hamilton, Illinois

GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio.

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VOL. XLIV.

DECEMBER 1, 1916

NO. 23

EDITORIAL

OUR California correspondent is developing into a racy paragrapher. See his department in this issue.

DON'T forget to take in Donahy's live-bee stunt in this issue, especially the expression on the face of the dog.

IF any one has extracted honey for sale he should get bids from the different markets. Delay may be dangerous. The supply of comb honey everywhere is large, and prices easy.

THE very novel arch-way shown on our cover is in the apiary of R. A. Morrison, Cataquai, Ont., Can. The cover of the Dec. 15th number will show a beautiful winter scene in this same apiary.

THE secretary of the National Beekeepers' Association has announced that the next convention will be held at Madison, Wis., in February, exact date of meeting to be announced later. He says the officers have commenced on the program and will take up matters of great importance to beekeepers all over the country.

The Effect of Sudden Cold Snaps During Early Winter

FROM NOV. 23 on to the 25th we had wind, rain, and snow, with a sudden drop in temperature on the 24th and 25th. Indeed, this cold spell caught many beekeepers who had not yet put their bees into the cellar. It caught us; and an uncomfortable feeling it was, as we knew they ought to be in the cellar. After a cold spell like this it is advisable to let the bees have another flight, providing there is prospect of a warm day in the near future. To put the bees into the cellar too early is almost as bad as putting them in too late. Everything depends on the season.

Wintering at Medina

OUR Medina bees are put up for winter in four different ways. 1. In quadruple winter cases holding four hives; 2. Regular individual double-walled hives; 3. Single-walled hives packed in straw and cornstalks at one of the outyards recently acquired. 4. A few of the weaker colonies that have been used for window displays will be put into our big cellar.

We shall have an opportunity of comparing all methods of wintering; and, no matter what comes, our eggs are not all in one basket.

The Distance Bees Fly

IN this issue, page 1114, Mr. Doolittle takes issue with Arthur C. Miller and the editor as to the distance bees fly. Evidently Mr. Doolittle has not read all that the editor has said on this subject. If he will refer to pages 965 Dec. 1, 1915, and of this year, pages 150, 256, 866, 964, and 966 he probably will not differ very widely from us. Then if he will turn to an article by Mr. Louis Macey on page 1127 of this issue he will see that Mr. Macey is apparently with the editor. Times, seasons, and locality, as well as conditions, are so different that it is impossible to lay down any hard-and-fast rules. Sometimes bees will go five miles and even more; and just as surely they will not go more than half a mile at other times and under other conditions. Why this is, we do not know.

New Beekeepers' Paper in the Texas Field

MR. LOUIS H. SCHOLL, of New Braunfels, Tex., well known to GLEANINGS readers as the reporter of "Beekeeping in the Southwest," is to be the editor of a new beekeepers' journal. *The Beekeepers' Item*, soon to make its initial appearance. We understand that the new journal is to be published especially for the beekeepers of Texas and

adjoining states. Mr. Scholl says that the beekeepers of Texas feel that there ought to be some kind of medium thru which there may be an interchange of beekeepers' news matter and other information. Mr. Scholl further says that this need has become so vehement, and so urgent have been the persuasions on the part of many beekeepers, that he has finally decided to get out a beekeepers' "newspaper." It is Mr. Scholl's idea to emphasize the news feature of his journal, making it a "newspaper" in very fact. Along with the zealous reporting of beekeepers' "news" in his field, the editor will aim to make the educational influence of his journal as great as possible.

The new publication is to be a monthly, and we understand it will make its first appearance very shortly. Price, 50c a year.

Mr. Scholl will have the well-wishes of all forward-looking beekeepers in his efforts to advance the apicultural interests of Texas and the Southwest. GLEANINGS wishes him all the success possible in his new venture.

The Starch-glucose Trust Ordered Dissolved

ACCORDING to the news dispatches of Nov. 13 the starch trust, with a capital of eighty million dollars, has been adjudged guilty of "unfair methods of competition" in violation of the Sherman anti-trust law. The defendants, including The Corn Products Refining Co., according to the decree, "shall be divided in such manner and into such parts of separate and distinct ownership as shall be necessary for that purpose." The dissolution of the "trust" is to be effected within 120 days, and failing so to do the court shall take steps by receivership or otherwise to dissolve the unlawful combination.

The Corn Products Co., it will be remembered, are the manufacturers of the glucose product called "karo." This does not mean that karo and the other products of the allied companies will be taken off the market, but that each of the concerns, according to the decree, shall be operated in harmony with the law. Doubtless the case will be carried to the Supreme Court of the United States.

Our readers will remember that karo was originally advertised as "better than honey and for less money." We have never regarded it as a competitor of honey, because it is in an inferior class by itself. Possibly there are some who would buy honey if they could not get karo. More probably those who buy karo cannot afford to buy honey or the more expensive

syrups. To that extent karo may be supplying a demand all its own, and perhaps enable some poor people to have a sweet that they could not otherwise procure, but a dark honey of a higher price would go further.

Honey-market Conditions and Prices

While the extracted-honey market is becoming more and more firm, with prices above those of last year, the comb-honey market is going the other way, with quotations easier than those of last year. Possibly the firmness of the liquid-honey market will tend to stiffen the market on comb, but it is doubtful. Those who are holding extracted honey for better prices would do well to remember that the prices on comb honey and extracted ease up usually during and after the holiday period. See what Foster says in Rocky Mountain Department this issue, also Honey Column.

It is apparent that the heavy campaign of advertising honey by the publishers of this journal thru our popular magazines is creating an enormous demand for table extracted. It is impossible to advertise any one brand without advertising all brands of honey. We are reliably informed that the various bottlers, have sold in the aggregate over one hundred cars of honey in bottles and tumblers already this season. Such a call for liquid honey would have a tendency to stiffen the market. Before our campaign of advertising honey in the popular magazines such a demand would have been impossible. Honey in glass is cheaper than honey in comb; and if beekeepers had heeded our call last spring, see GLEANINGS May 1, and produced more extracted than comb, the market would now be good on both.

The Hearing on Comb Honey Freight Rates

On page 647 of issue for August 1 we called attention to the proposed discrimination against shipment of comb honey in less than car-load lots applying to territory west of Chicago. At the time we urged producers to write at once, protesting to R. C. Fyfe, Chairman of the Western Classification Committee, Transportation Building, Chicago. Apparently beekeepers got busy, with the result that comb honey in less than car lots may soon be sent at reasonable rates *provided it is sent in carriers*. Before this was allowed, a special committee of representative men appeared before the Committee on Railroads.

It will be remembered that the western classification effective Sept. 1 required the payment of two and a half times first-class rates on comb honey in cases not protected by carriers, and double first on comb honey packed in carriers.

On Oct. 26 there was held in Chicago before a sub-committee of the Western Classification Committee a hearing for a lower classification. Representing the beekeepers and others interested in the shipping of comb honey, there was Frank C. Pellett, of Iowa, assisted by Mr. Lewis, of the Iowa Commission; E. J. Baxter, of Illinois, president of the Illinois and Tri-state Beekeepers' Association and J. T. Calvert, of GLEANINGS IN BEE CULTURE. Mr. Francis Jager, President of the National Association, had spent several days in Chicago doing some good work but did not remain for the hearing.

It appeared from some remarks by Chairman Fyfe that the committee had been bombarded with letters as a result of notices appearing not only in GLEANINGS but in the *American Bee Journal* as well, and our case had been practically won before the hearing occurred. We were promised a concession in the first supplement to be issued soon, and to become effective January, 1917. The rates to be granted will probably be first class on honey in carriers, with no reduction on that shipped unprotected, if, indeed, such honey will be accepted at all in local lots.

It appeared in the evidence that the railroads had been called upon to pay damages in excessive amounts, not only on the honey broken in transit but often on other goods of greater value which were injured because of the leaking honey. Damage claims were more noticeable in the far West, where the use of carriers is not so common as thruout the East. The Southern Pacific Railroad alone had been called upon to pay over \$800 in claims.

There had also been numerous claims for losses in Texas and Oklahoma where friction-top cans and pails are largely used, showing that these containers are not entirely satisfactory for safe shipment.

The evidence presented at the hearing showed that where comb honey was put in carriers of not over 250 lbs. gross, having not less than four inches of cushion material in the bottom, and handles to move them with, it reached its destination without damage—especially if the honey was at all suitable for shipment. Out of nearly a million pounds of comb honey shipped in one year by The A. I. Root Co., there were less than five dollars in claims.

No one should offer for shipment, either

by freight or express, comb honey that is not well fastened to the wood section-box, top and bottom, or top and both sides. Honey not well fastened, if such is produced, should be disposed of locally.

It is unfair to the interests of careful beekeepers who use care, not only in the production but the packing for shipment of comb honey in safe carriers, to attempt to ship comb honey not well fastened, or to ship *any comb honey* in light cases without carriers.

The increased toll of many thousand dollars taken by the railroads in recent months is the direct result of excessive claims due to *careless, thoughtless, and slipshod shippers who have not been willing to take sufficient pains and expense in properly preparing their honey for safe carriage.*

While the lesson has been expensive we trust it has been well learned, and that shippers of comb honey will in future give the railroads a fair show by properly protecting comb honey for safe transport before offering it for shipment.

Beekeepers in western classification territory are to be congratulated that relief is in sight from the excessive rates now in effect.

There is need for a similar campaign in the territory covered by the southern classification where double first-class rates prevail on comb honey. We urge beekeepers and others affected to write to the Southern Classification Committee, W. R. Rowe, chairman, Atlanta, Ga., protesting against the present unreasonable rates.

We have already entered a petition to the committee for a reduction. If this is backed up by the right kind of appeals from those interested we may hope for action similar to that expected from the western committee.

This campaign should have been undertaken several months ago, but we overlooked calling attention to it then. Let a united effort be made now, and we may look for some relief.

The 1917 Edition of the A B C and X Y Z of Bee Culture

THE new 900-page double-column volume is nearing completion. It has been a tremendous undertaking, because every subject has been either revised or entirely rewritten, the most important having been entirely rewritten or nearly so. The minor subjects, while they have received changes and corrections and additions, are much the same as before. A large number of new subjects that never appeared before are now incor-

porated. The new volume will not only be considerably larger, but will be clear up to date from start to finish. Each subject found in its convenient alphabetical order is a complete monograph in itself. While there are numerous cross-references, each chapter is handled in such a way that it is a complete text-book in itself, taking in all the latest developments.

Among some of the new subjects will be found the Foreword at the very beginning, setting forth the nature and scope of the industry. The A B C of Beekeeping is the initial chapter. This gives a general birdseye view of the whole subject treated in the volume so that the reader will have a fairly concrete idea of what bees and beekeeping are at the very beginning and before he takes up his other course of reading. It is, in fact, a little text-book for beginners.

Among other new subjects are Backlot Beekeeping, Breeding Stock, Brood and Brood-rearing, Buildings, Bumblebees, Combs, Drifting, Dzierzon, Dzierzon Theory, Frames, Honey, Analysis of; Inventions Relating to Bee Culture, Langstroth, Patents, Queens, Quinby, Races of Bees, Sense Organs of Bees, Shipping Bees, Solitary Bees.

The following subjects have been very largely if not entirely rewritten, and therefore are clear up to date:

Adulteration, Alfalfa, Apiary, Bottling Honey, Comb Foundation, Diseases of Bees, Foul Brood, Fruit Bloom, Honey as a Food, Invert Sugar, Laws Relating to Bees, Manipulation of Colonies, Moth-miller, Nectar, Swarming, Sweet Clover, Transferring, Water, Wax, Wintering, Xylocopa.

There have been such great changes in the subject of Diseases of Bees, Swarming, and Wintering that they have been handled in an entirely different manner.

A. Hugh Bryan, formerly of the Bureau of Chemistry, Washington, D. C., has rewritten everything in relation to honey, the adulteration of honey, glucose, invert sugar, and the like. He has also prepared a special chapter on the analysis of honey. While it is technical it will meet the needs of the chemists who have been following antiquated methods for analyzing honey. The introduction of artificial invert sugar has made it necessary for the chemist to use new tests.

Honey-plants have had a complete overhauling by J. H. Lovell. A large number of new engravings will serve to identify the various species. The subject of pollination has received exhaustive treatment by the same author under the head of Fruit-bloom and Pollination. Alfalfa and sweet

clover have both been enlarged and entirely rewritten.

The Laws Relating to Bees have been handled by a lawyer also an experienced beekeeper. The new chapter is handled in such a way that not only the laws but the procedure will be of immense service to an attorney handling a case for a beekeeper.

The subjects of Swarming, Comb Honey, and Wintering have been submitted to the best experts in the country for criticism; for around these center some of the latest developments.

Wax-rendering, under the head of Wax, is given an entirely new treatment in the light of some recent experiments conducted at Medina. The general subjects of Migratory Beekeeping and Shipping Bees have been entirely rewritten.

One can hardly conceive that such important changes have been made in the industry within the last four years; but some investigations on the part of the Bureau of Entomology by Dr. Phillips and his assistants have made it necessary to revise our former opinions on a number of subjects, and the new A B C has it all in.

One will naturally see that a vast amount of work has been undertaken, and it was carried thru when the editor, author, and reviser was in the pink of condition.

The new volume will be the largest work that was ever published on bees. It covers nearly every important method or process used by the best beekeepers of the world. Under Artificial Swarming and Swarming every scheme for the prevention or control of swarming has been discussed. In short, we have endeavored to make the A B C and X Y Z of Bee Culture just what its name signifies—a complete treatment of the subject of bee culture from beginning to end in the convenient form of an encyclopedia. It has cross-references from one subject to another, and a complete index at the close of the volume.

The author and editor does not claim that his volume is *better* than any other bee-book, but he does claim that it is *larger* and more comprehensive.

The large increase in the amount of matter, together with the increased cost of paper, will make it necessary to charge \$2.50. If we were to charge on the basis of the old volume the price would be \$3.00. As it is, we club it with GLEANINGS one year for \$3.00. While the work is complete so far as the work of revision is concerned, there are yet about 400 pages to be run thru the press. We hope to have the new volume ready for delivery by Feb. 1 at the latest.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



I'm eagerly waiting to see the first number of the new GLEANINGS, Jan. 1.

A. I. ROOT, in accordance with your wish, p. 1013, I'm doing my level best to live as long as you, and also to have the best kind of time, with no anxiety for the future, because I am trusting that future to One "who is mighty to save." Yes, indeed, I can sing "The Rock that is higher than I" just as well as when you heard it last.

A WAY given, p. 1088, to get honey out of combs without an extractor, is to crush them up and strain the honey thru cheesecloth. An easier, tho not so good a way, is to melt them with gentle heat, allow the mass to cool, and then lift off the cake of wax.

SWEET CLOVER is getting bouquets from stock-raisers nowadays. In *Country Gentleman*, 1947, is given a report from Mitchell, S. Dak., where it is pastured on a large scale, and it was the belief "that three head of adult cattle to the acre was about the right quantity for a sweet-clover pasture. Needless to say, this is much more than ordinary native grasses or any other known pasture plant is capable of carrying."

J. E. CRANE, you ask, p. 968, "Are we to understand the moderate use of sugar will shorten a man's life, or that the use of honey will lengthen it?" I don't believe the moderate use of sugar will shorten a man's life; but more than 80 pounds, the annual average, is hardly moderate. I think that the substitution of honey for most of the sugar I would use will lengthen my life, or I'd eat less honey and more sugar. If I had used all honey from childhood, I suspect I would always prefer it as a matter of taste.

BEES stopped flying here not long after the first of November. The weather kept getting colder, and Nov. 14 it was 8 above zero. A perplexing question arose: "Shall I cellar the bees before their intestines become any more loaded, or shall I wait for another flight-day?" I decided to risk waiting; but it was not a pleasant frame of mind to be always thinking, "What if another flight-day never comes?" Finally my heart was rejoiced to see the bees in a glorious flight Nov. 19, with the thermometer at 52°." So in they go into the cellar the first day I can get Philo to take them in. [We had the same problem here. It turned steady cool or cold earlier than

usual. We are hoping for a warming-up spell, after which we will put the bees in the cellar. We are more likely to get it than you are.—Ed.]

"ORDINARILY it is not practicable for beginners to unite bees of the same yard... Wait till cold weather..." p. 940. You forgot the newspaper plan of uniting—didn't you? Any beginner can use it in the same yard, and without waiting for cold weather. Lay a sheet of newspaper on the top-bars of one hive, and set the other hive upon it. The bees will do the rest. [The newspaper scheme is all right and endorsed in our A B C and X Y Z of Bee Culture. During cool weather we have not found it necessary to use it. In hot weather, such as we sometimes have in October, the bees above may suffer some for the want of air.—Ed.]

SOME excellent talk about wintering, p. 1011. Along with it we can hardly emphasize too much the importance of pure air. That's where outdoor wintering has the cinch. You are right, Mr. Editor, in saying there is tendency toward outdoor wintering in very cold climates. But there is another tendency that must not be overlooked. That is the tendency toward having furnaces in cellars. In this region I think the number has quadrupled in the past ten years—perhaps in five. Wherever a furnace is put in a cellar the advisability of cellar wintering is greatly increased, simply because the higher temperature of the cellar allows the introduction of a larger supply of pure air without making it too cold for the bees. Another factor to be considered is the wind. You are dead right in saying, "If we had to choose between windbreaks and single-walled hives or double-walled hives out in the open, we would unhesitatingly choose the former." And before either of them you would probably choose a place so still that windbreaks would not be needed. The fact that a man in Canada finds outdoor wintering better for him does not convince me that it is better for me, altho 200 miles further south; for he may be where winds are neither severe nor long-continued, while my winds nearly blow me over, and make a business of blowing steadily day and night.

[Perhaps if you were where you could not inspect your cellar daily you would prefer the outdoor plan. Certain it is that a furnace with plenty of ventilation helps out a cellar for bees providing, of course, that the climate is cold enough. The new edition of the A B C and X Y Z makes quite a point of this.—Ed.]

Grace Allen

THE DIXIE BEE

Nashville, Tenn.



Count us among those who, with the editors, are "looking forward to a bigger and better GLEANINGS with enthusiasm."

All this part of Dixie has gone into winter quarters with the prettiest of prospects for clover in 1917.

We have used carbolic acid to advantage around hives that are being robbed, but did not know it was of benefit applied to the *robbing* colony, as outlined on page 987. Sometimes more than one colony is in the mischief, and anyway it isn't always easy to identify the robbing colony, whereas the veriest novice knows who's getting robbed.

Mr. Scholl, may I please take back my "Whew"? At any rate, I want to change the tone from one of amazement, tinged with protest, to one of downright respect. The explicit article on pages 1031, '32, Nov. 1, shows skill and efficiency developed to a high degree. If the quantity of smoke used doesn't hurt the honey a bit, and I assume it doesn't, or you wouldn't use it, you have a method of removing honey that is as excellent as it is rapid.

The editor's warning, page 965, Oct. 15, against extracting unripened honey, is one that can well be repeated many times. We have run upon several customers who have complained about honey purchased other seasons from different producers, who, we know, mean to be careful, but whose honey soured, being extracted too green. One man complained, not about that particular honey, but about honey in general. "What I don't like about honey," he grumbled, "is that you gotta eat it up so quick or it goes sour on you."

Today, Nov. 14, we of middle Tennessee are watching our thermometers in shivering amazement, for we have dropped to a freezing temperature and below. Last night Nashville fell to 28 degrees, which is very unusual for Nashville in November, with 15 to 20 promised for tonight. It is, of course, the same cold wave, somewhat penitent and reformed, that left Montana frozen stiff at 28 degrees *below* zero. Beekeepers naturally think temperature in terms of bees. I hope the blankets are tucked in tight around the Montana bees; and I half wish our own had an extra

quilt or two! I had planned to try out a few four-hive winter cases this fall, but somehow backed down when the time came, merely putting on a few shallow supers of leaves.

Mr. Foster says, page 1014, Nov. 1, that when the producer retails his own honey he ought to hold the prices up. And so he should—decidedly. He also says that when he sells to retailers he should let them make a sufficient profit. And so he should. But when the producer sells for 7 cts. in 60-lb. cans, and the retailer sells for 16 cts. in 10-lb. cans, doesn't the retailer get the best of that bargain? He makes more for putting the honey in 10-lb. containers, and selling it, than the beekeeper gets for producing it, and then putting it in 60-lb. containers and selling it, for he gets 9 cts. profit, while the producer gets only 7 cts. gross. Of course, if there is a middleman it is a different story; then the 9 cts. must be divided.

MOTHS IN EXTRACTING-COMBS.

We extracted in July, let the bees clean up the supers, then stacked up the extra ones in the supply room, treated them twice with carbon bisulphide, and thought no more about them. They were not touched again till October, when they were disarranged and rearranged, and yet not worried about, as it seemed too late in the season for moths, in spite of the warm weather. And then in the lean month of November we discovered them and their name was Legion. Sleek and prosperous-looking, the little white worms were scattered all thru our precious combs. But they had not done much damage yet, at that; and as we promptly dosed them again with the carbon bisulphide, we hope the trouble is over. It is true that the supers, piled one on the other, leave rather wide cracks, thru which I should think a moth might be able to enter, yet the combs must have been free from moths until rather late, probably when we disturbed them in October, or there would have been more galleries eaten thru the combs, and the larval development would have been greater. Mr. Sidney Olliff, in A B C and X Y Z, says the full-grown larva is about an inch long. I think none of these was more than a quarter of that length. The most interesting thing about it was that practically all the worms were in cells containing pollen. Where there was pollen, there was a worm, almost invariably. [Evidently the lesser wax-moth.—Ed.]

NOTES FROM CANADA

J. L. Byer, Markham, Ont.



Regarding the matter of packing for out-door colonies, page 1010, Nov. 1, is it practical or possible to give enough packing to keep the bees warm enough to permit them to throw out all dead bees during long spells of weather away below zero? The most of us up here in our "Lady of the Snows" will not debate that question very much, but will almost unanimously say that it is not necessary any way, when one considers that good wintering can be accomplished without going to so much trouble to make such large cases as that procedure would entail.

GLEANINGS to be a monthly! It is up to the editor to change some subscribers' feelings on this question; for after speaking to a number of friends who take the paper they unanimously have said, "Sorry we shall get it only once a month from now on." But on reading the first editorial page, Nov. 1, it looks like a sure thing that all these subscribers will feel quite sure that the change has been made for the best. Quite a few thousand regular readers of GLEANINGS will await with no small amount of eagerness to see the initial number on Jan. 1. May their fondest desires as well as those of the publishers be realized.

In the north location, which is mainly a hay-growing country, the alsike in the old meadows seems to be all right. Here at home, alsike is strictly a biennial; but at the north location all agree that the plant will live on for three years. In other words, plants that came up in 1915 blossomed in 1916, and are alive this fall with good prospects of wintering, and again blossoming next year. While I am not prepared to be positive as to the correctness of this claim, yet circumstances seem to prove that it is right. Will some seedsman give us positive information on this point? Previous to the past three or four years I have always claimed that it is strictly a biennial. If I am wrong in changing that view I want to know it.

SOLID BROOD-COMBS OF HONEY.

Reading Allen Latham's article on page 973, Oct. 15, I am reminded of a practice followed by the late Mr. McEvoy in the spring of the year when he wished to give his colonies encouragement. He kept over

a number of full sealed combs of honey; and in the spring, after thoroly warming these combs he would place one flatwise right on top of the brood-combs of each colony, and then cover all up with packing again. Allen Latham recommends warming combs to give to the bees in the spring; and there is no doubt but that it would have a good effect. Whether enough help would be given to pay for all the work is another question. While temperature, as a matter of course, has much to do with regulating the amount of brood-rearing, yet there are cases that seem to disprove a few of the claims of friend Latham.

Referring to his flow from goldenrod, aster, etc., this fall, he says that the brood-nests are fast disappearing, and the brood-combs are becoming solid slabs of honey. This he ascribes altogether to temperature, the nights being cool, and also to the reduced number of bees in each colony at this season of the year. In the early fall of 1913 we had the only flow of aster honey that ever came our way—this was up north at the Lovering yard. Bees were abnormally strong for the time of the year, the whole fronts of the hives with supers on being covered each night. It is needless to say the weather was also abnormally hot for the time of the year as well. Comparatively little honey was stored in the supers, altho the supers were crowded all the time; but in the 13 days of the flow, about all brood was crowded out of the hives, and, as in friend Latham's case, the brood-combs became solid slabs of honey. We came to the conclusion that the time for the queens to lay was past for the season, for all queens, whether young or old, acted the same.

This year, as already stated, the clover flow was good, and lasted longer than usual. With hardly any swarming, colonies were very populous right thru the clover flow. But during the last ten days or so, practically all queens stopped laying, or at least allowed the bees to pack the brood-nests with honey, and this at a time when the thermometer was up around the 100 mark each day. This condition was relieved in many colonies later on in buckwheat flow, but the majority of colonies go into winter quarters with a lot of clover honey. In this case temperature had nothing to do with it, and I surmise that the queens were simply taking a rest after a long period of continuous brood-rearing.

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



Do you keep bees or do you make them keep you?

The proper size for an entrance seems to be about as nearly settled as the mooted question of "how old was Ann?"

There have been few seasons when my supply of bees has been greater at the beginning of the winter than at the present time.

We are glad you have an auto, Brother Crane; but we don't like to hear so much about it until we can blossom out with one of our own.

The average honey, even that weighing up to the standard, could be improved by a little more ripening. The riper the honey the less it will granulate.

Bees are going into winter quarters in fine shape in this locality. There are plenty of bees, also plenty of stores, *where the beekeeper has been wise.*

In response to the editorial headed "Are your bees packed for the winter?" I can say "yes," but they are not in chaff or leaves. I packed honey enough from the fat ones to supply the lean ones, and a little more for good measure.

The state convention is to be held in Los Angeles some time in December. Well, I had already packed my grip to go up into the central part of the state, as that was my understanding at last convention time of the place for the next meeting.

We vent our wrath on the wax-moth on several occasions, yet they are more of a benefactor in the long run than an enemy. Many are the old diseased trees and uncarved-for hives where the bees have died out that they have cleaned up, thus preventing disease spreading.

The man in California who fails to leave his bees not only sufficient stores for the winter but a surplus to fall back on in the face of a dry season as well, will, eventually, be found either in the sugar market or sustaining a heavy loss of bees. In my opinion a man can not afford to feed bees even

at a difference in price of five cents per pound in favor of sugar.

So GLEANINGS is to have a new face and visit us only once a month. It will be a long time to wait to see who took the last dig at you. But then, if we get a larger and better magazine, one that will compare with the best, we will be up in the front row and thereby put the business of beekeeping on a higher plane. Good!

The early October rains ceased as abruptly as they began. Much of the weather of late has been very dry and "electric," drying out the ground and leaving much of the surface vegetation in a dying condition. Rain is needed badly to keep vegetation coming on nicely. But, will we get it in time? That is the point.

I have never seen the white sage stool out for blooming as extensively in this locality as it is this season. Each year when the plants are making their spring growth they also grow the base for the next year's bloom. This year the number of stalks on the stools for the next spring's bloom are very numerous; and should it be seasonable we may expect a wonderful bloom on this plant.

Mr. Scholl, I accept your explanation of how you take off forty pounds of honey per minute. I did not wish to infer that it could not be done, but it brought to my mind a story of a bull that chased a man across a large pasture. Just as he reached the fence the bull struck him and sent him sprawling on the other side. He gathered himself up, feeling more secure than for some minutes; then turned, shook his fist at the bull, and said, "You can do that once in a while, but you can't make a practice of it."

A very unnatural condition exists in a small area in the sage belt. Summer showers in September covered a small area just south of Redlands. This started the sage to take on its springtime hues. Then came the October rains which put an unseasonable growth on it in many places. In the canyons there are places where the growth has reached a length of from five to ten inches. The danger of freezing is great, for on the 14th of this month it got pretty cold, down to (there goes Chadwick knocking California again) so I'd better not tell.

BEEKEEPING AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado



SWEET CLOVER.

The crop of sweet-clover seed will be very short here this year on account of the drouth in July. Some of the fields that were irrigated have a good stand, and will yield well; but the low price secured for seed last year will deter many from harvesting any. The demand for seed will apparently be pretty good this year.

Dr. Phillips says, page 418, of the November issue of *The Beekeepers' Review*, that cautious spreading of brood will increase brood-rearing. Under what conditions may this be done? I have been taken to task for advocating spreading brood, and think that defense of the plan by Dr. Phillips might help me out of a hard position.

Among the advances made in beedom during 1916 is the extension and establishing on a firm basis the shipping of bees in combless packages. The use of honey more generally has been helped by beekeepers thru circulars, demonstrations, advertising, etc. Consumption is very well apace with production. The advancing price of many things entering into beekeeping has seriously affected the profits of the business however. Financing the farmer has nationwide attention; financing the beekeeper is of as much importance to our business.

THAT MATTER OF SUPERING.

On page 1013, Nov. 1, Dr. Miller says that my statement that we seldom have a honey-flow heavy enough to justify lifting supers and placing empty ones beneath is another one on "locality." Well, I don't know about that. I have an idea that I could handle one hundred colonies of bees in such a manner that in average seasons it would be possible to put supers above and below with success. Bee management is never as intensive with 650 colonies as with one hundred or less. My queens are not so carefully selected, nor are colonies so well cared for, as would be possible with a smaller number. I would not want to compare my colonies in strength with Dr. Miller's. But average yearly production of honey per man is more the aim in the commercial-honey sections of the West; and these successful ones are the fellows who best apply intensive methods in an extensive way. It is a credit to the old guard—Mr.

Doolittle, Dr. Miller, etc., that the thousand-colony beemen read their writings very carefully. Often I hear the expression, "Stick to Doolittle," or, "You will not be wrong to follow Dr. Miller." Our best teachers are those who have time to go to the bottom of things.

THE HONEY MARKET.

Extracted honey is in good demand at a higher price by one cent a pound than last year. Comb honey is slow sale, and there is a tendency to shade prices to effect early sales. Beekeepers who have not sold their crop need money; and as interest rates are from 8 to 15 per cent it does not appeal to the beekeeper to borrow money on his honey to tide over until he can sell. The comb-honey producer is up against a hard proposition this year on account of the slow sale of honey and a much higher price for supplies. Help and all things entering into production are higher, while the comb-honey crop will net most producers less than the average of former years. Cars of comb honey are being offered at \$2.00 and \$2.25 in western Colorado, and at \$2.50 and \$2.75 in eastern Colorado. At these prices honey production is not profitable unless large crops are secured.

If some method could be worked out so that the comb honey could be shipped during warm weather, and then stored at destination, and money sufficient for the beekeepers' needs advanced upon it until sold it would help wonderfully. When beekeepers wait for buyers for a month or two they get desperate and have to sell for any thing they can get. This depresses the market so that those who have already bought at high prices lose money because they have to compete with the honey that has been unloaded on the market.

[Mr. Foster is quite right in many of his observations. The closing-out of the comb-honey crop late in the season at reduced prices to obscure channels of trade is very likely productive of great harm. Sales of an entire crop at a uniform price for the same quality will help the market in our opinion. For example, to sell one car at \$2.75, another at \$2.50, and the last at \$2.25, will net the producer no more than the sale of all three at \$2.50; but the market will be seriously affected by the reduction from \$2.75 at the opening of the season to \$2.25 at the close, leaving it in poor condition for the following season.—Ed.]

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



THINGS MISLEADING.

"I have read what the two Millers have to say regarding the flight of bees—Arthur C. on page 866, Sept. 15, and Dr. C. C. on page 966, Oct. 15; also what the editor says on page 964. It seems to me that all but Dr. Miller put forth a misleading idea before the average reader. Editor Root says, 'That they will generally not go more than a mile in average localities and seasons we believe is not far from the truth.' This, I suppose, means a mile in a straight line in all directions from the apiary. Now, with 100 colonies could Editor Root, Dr. Miller, or Arthur C., in an average locality, secure the yields per colony reported, if the radius of flight were only a mile?"

In my memory of the days of the old muzzle-loading rifles I can see the champion shot of central New York putting the charge of powder in the barrel of his gun, then a cloth patch on the end of the barrel where the powder had gone in, and on this patch a ball of lead (100 of which it took to weigh one pound), molded in the bullet-mold, from a long-handled spoon of molten lead, heated on the coals in the open fireplace. Then with a wooden ramrod, made from a split hickory stick, this ball was pushed home, and a percussion cap put on the "tube." A chicken had been placed standing on a box 80 rods away (one-fourth mile), and whoever shot the chicken could have it. Many would shoot, but very few got a chicken. The old man would wait till all the amateurs had tried and failed, then he would raise the rifle to his shoulder, pull the trigger, and the chicken would drop. Now for Editor Root to tell us on page 964 that bees "very often do not go much over a quarter of a mile" for nectar does seem to me, as our questioner says, somewhat "misleading." And with 100 colonies set on the place where the old man fired from, I can hardly conceive of any beekeeper in this country securing an average of 85 lbs. of comb honey as I did for 15 years in succession.

Now for what I know to be positive facts, proven by actual observation when the first Italian bees were brought into this part of the country. The late Jerome Burtis, of Marietta, N. Y., a beekeeper of more than ordinary ability in the early seventies, procured the first Italian queen that came into central New York, receiving her in July. He raised some ten or twelve queens from

her the first season, so that he had nine colonies headed with Italian queens the next spring. As I had only blacks at that time I was very much interested in these Italians. When the apple-trees bloomed I watched the bees at work on the bloom, and, much to my surprise, saw several Italian bees at work with the blacks. A count was made, and the first gave three Italians out of a total twenty. Other counts gave from two to six Italians out of twenty, with apple-trees pink with bloom as far as the eye could see the orchards. Now, Marietta was $2\frac{3}{4}$ miles distant, as the crow flies, and apple-trees were white with bloom all around the $2\frac{3}{4}$ -mile radius from Marietta, yet Mr. Arthur C. Miller and Editor E. R. Root would have us believe that bees "will generally not go more than a mile in average localities and seasons."

That same year, with no Italian bees nearer, so far as I knew, I passed thru a field of red clover $3\frac{1}{2}$ miles from Marietta, and, seeing bees at work on the clover, the first count gave three Italian bees out of ten. The fields were red with clover everywhere.

Editor Root speaks of moving "the Waterworks yard scarcely a mile in an air-line." This was done in the aster bloom, and "Not a one" came back. Now, asters bloom in September here in central New York, and bees are comparatively "sluggish" to what they are during May, June, July, and August; and with a whole apiary moved I should hardly expect many to come back, especially if everything about their former home was cleaned up so that the old site had no homelike look.

About 1880, I sold during the latter part of May a colony of Italian bees to a man living about $1\frac{1}{2}$ miles away, and he carried them away after dark. The next morning at about eight o'clock I saw bees hovering about where the sold colony stood, and, being short of colonies, I put another hive on the stand having a frame of honey and one of brood in it. At night I had a good-sized nucleus in that hive, and built it up to a full colony which stored me several boxes of comb honey from the buckwheat bloom. A year or two later I sold a colony during the first days in June, having a \$10.00 golden Italian queen in it. This colony was taken two miles away, and enough bees returned the next day to make a small nucleus. (See Editorials.)

GENERAL CORRESPONDENCE

OUR GREATEST BEEKEEPING PROBLEM; HOW TO HELP SOLVE IT

BY GEORGE H. REA

Box-hive beekeeping as practiced by the average farmer is a serious menace to the whole industry, especially since foul brood has become so widely spread. The box hive will not admit of manipulation of any sort. The owner knows nothing of the inside conditions of his colonies, and in many cases cares less. When foul brood comes his way, his bees become polluted with it, and rapidly die out. The owner knows nothing of the real cause, but blames it on bad luck or "worms," or something else. This kind of beekeeping presents every inducement for the rapid spread of foul brood. Hives in which the bees have died are left standing for other bees to clean out and the combs later destroyed by moth. Our greatest present danger is the foul-brood phase of this question. In the fall many colonies are "taken up," or sulphured. The old hive daubed with honey, and the combs containing brood and a little honey, are scattered about for robbers to clean up. Often the ones killed are those that are too light to winter because diseased. Thus the disease may be scattered all over the surrounding country.

The box-hive beekeeper is constantly losing more than he makes out of his bees. No matter how willing he may be to make the most out of them, he is unable to produce results that will compare with the results obtained from good bees kept in good hives and operated by modern methods. From an economical standpoint alone, box-hive beekeeping is a losing game.

Ignorance regarding bees and beekeeping, and often regarding many other things, goes hand in hand with box-hive beekeeping. So far as the personal requirements of the box-hive beekeeper are concerned, real success consists in getting *swarms*. "That gum over there, he is a good one; he swarmed four times already, and I took ten pounds of honey from him," is a familiar expression. Some of the most ridiculous superstitious beliefs and practices are found among beekeepers of this class.

One lady, not far from Harrisburg, objected to having her bees inspected late in August because she said the honey would have to be disturbed, and to do so in the "cat days" would make it all sour, and she would lose her bees.

But that was mild in comparison to the

fellow who was afraid lest the inspector would charm his bees and they would all follow him home. He stated that the inspector could say a few words that would cause his neighbors' bees to leave their hives and go over into his hives—all excepting the queen. He was challenged to prove it, but he said he was afraid some one would find out his secret or make trouble for him.

One good old German lady solemnly told me that her bees had all died because no member of the family thought to rap on the hives when her husband died.

Not very long ago a man lay on his stomach before his hives for the greater part of three days, impaling certain large bees on a sharp stick which he wielded. A passing neighbor called to him asking what he was doing. "Killing these infernal robbers. I guess they come over here from Smith's." He was killing drones.

We are all familiar with the practice of "drumming" down swarms. I know one fellow who has a large circular saw suspended on wire, for this purpose alone. He uses a plowshare for a hammer; and when his bees swarm he makes a racket that may be heard a mile.

That is a harmless pastime, perhaps, and it serves to amuse and entertain the neighbors.

In the discussion of this subject I believe that we are safe in dividing box-hive beekeepers into four general classes:

1. Those who know something of the importance of better beekeeping, and who are ready and willing to transfer their bees and to co-operate in constructive work along this line. They are usually much interested in securing literature on the subject, and with a little encouragement become good beekeepers. I believe that fully 75 per cent of the farmers and backlotters who now keep bees in the old-fashioned way belong to this class.

2. This class consists of the people who enthusiastically inform us that their bees are all in modern hives and all pure Italian. They get two swarms and ten pounds of honey from each hive, and expect to have one thousand colonies some day, etc. Do they read a bee journal? Oh, yes! they had GLEANINGS at one time. But all their ideas of beekeeping are so magnified that they scorn the bee journals, and then they

have no time to read anyway. We usually find the hives among weeds so tall that the poor bees have to crawl three feet to the top of them in order to see daylight. And such bees! They meet us on the far side of a ten-acre lot with a welcome that reminds us somewhat of the disposition of the booze gang the next morning after a dry election. Pure Italians—whew! The hives were made in a factory all right, but the combs are so crisscross that not a single one can be removed without cutting it or splitting open the hive with an ax. These conditions are far worse than in any plain box hive. Hives with immovable combs, whether factory-made or home-made, must necessarily put its owner in the box-hive class.

3. There is also a class of beekeepers who are discouraged because their bees are not doing well, and who do not care to do anything about it because the bees don't mean anything to them. Fortunately such people do not stay in the business long. If their bees do not soon die they are sold cheaply, or given to some one who does care.

4. Fortunately, also this class is small. I refer to the beekeeper who is a sort of combination of the three other classes with some things added. He knows that he is behind the times, and a menace to good beekeeping, and yet he takes a grim satisfaction in the knowledge. He knows that he is getting practically nothing out of his bees, but he wants no instructions as to how he may do better. He is suspicious if not openly defiant toward the inspector, and sullenly wants to be let alone. He wants no one, not even the state, to presume upon what he calls his rights, and yet he seems to have no realization of the menace that he may be to the general good of apiculture nor his obligation thereto.

Some prosperous, up-to-date, and wide-awake beekeepers advise us to steer clear of the box-hive man with his slipshod methods. They admit that the worst enemy to the honeybee and to good beekeeping is the box-hive beekeeper; but they say that foul brood is a blessing to the one who knows how to handle it, because it soon cleans out the other fellow, once it gets into a community. But is that strictly true? Do the facts bear that statement out? And even if it were so, is that the proper attitude for us to bear toward our fellows? As a matter of fact we usually find that a scourge of foul brood hits the specialist so hard that he might well afford to get out among his neighbors and do considerable educational work in order to save himself much loss and expense.

It has been said that if we encourage the

small beekeeper we shall soon overstock our territory as well as cause an overproduction of honey. Last summer one fellow threw up his hands in dismay and said to me, "What are we going to do with all the honey when you fellows get all these farmer beekeepers educated to modern methods?" Well, if it were possible to accomplish such glorious results it would take so long that we would be listening to Gabriel's trumpet, and the honey market would collapse with a crash anyway.

With probably not over one per cent of the people of this country eating honey, the idea that there is a possibility of producing too much honey has no good ground for fact. If all the honey now produced were properly distributed there would hardly be a taste for each one.

The man who can deliberately say, "Let my neighbors' bees die with foul brood and by adverse conditions, I shall be the gainer thereby," must be a selfish man indeed. Such selfishness, if put into action in beekeeping or any other phase of life, is sure to act as a deadly boomerang against the individual who is dominated by such motives. What if all the farmers, fruit-growers, dairymen, manufacturers—all the business men in all walks of life—manifested such a spirit. We may imagine the result, but we cannot take space to discuss it now. That is the spirit that destroys men as well as business.

Let us now look on the bright side of this problem. My neighbor—a farmer—keeps a few bees. I show him how to transfer them, how to fight foul brood, and get him interested in some good bee literature. I do not refuse, either, to answer his questions nor to give him help when he asks for it, even tho it may take my time and sometimes tax my patience. The next thing I know he is interested in planting honey-producing forage plants—a boomerang of the right kind this time. Perhaps that is selfishness too; but if it is, it works good to my neighbor as well as to myself, and it is worth more than gold to me to have my neighbor meet me with a smile. Men who used to be prejudiced against alsike clover because they said it did not produce enough hay to pay now sow lots of it because they get some help and encouragement with their bees. That makes those locations much better for beekeeping, and really in a most direct manner it has made those men better farmers than they were. I get more honey from my neighbors' alsike fields than they do, and a good many barrels of satisfaction and fun out of it besides.

Only a few days ago one of my adjoining

neighbors told me that he had purchased a few hives of bees and wanted to know about moving them. He had a very humble expression when he broached the subject. I suppose that he thought I would object to his moving them so close to me. He seemed somewhat surprised when I swept away his fears with a hearty "Glad to hear it, John, call upon me for any assistance that I can give you." He now has about eighty acres that I expect to see put in alsike if I help to make a success of his beekeeping.

There is a place for the expert specialist in beekeeping just as there is a place for him in the growing of fruit, potatoes, hogs, cattle, or poultry. However, we must remember that the smaller producers in all lines contribute as much as or even more to the prosperity of the commonwealth than do the specialists. My observation is that practically every county in my native state of Pennsylvania should have at least one specialist owning several hundred colonies and making good profits. Such specialist need not and should not interfere with the smaller beekeeper; but in order to be most successful he should co-operate with and help them. We need education, organization, and co-operation along with our legislation for the betterment of beekeeping.

As mentioned earlier in this article, the farmer who is really encouraged to become

interested in his bees, and who begins to see something of real value in them, may become a better farmer than he formerly was because of a new interest in the planting of the legumes, which are at once our best forage crops, soil-builders, and nectar-bearers. Along this line we must not overlook the importance of the bee as a fertilizing agent among fruit-bloom. Since fruit is grown on practically every farm we surely have no right to deny the farmer his right to keep a few bees for that purpose as well as for the many other profits of beekeeping.

Bees are of such importance that, beyond a doubt, the industry should be fostered among the farmers. Since this is true it is of the highest importance that the state and national governments provide the means necessary for the preservation of beekeeping as an industry and necessary equipment in our various schools for the proper study of the subject. Slowly we are coming to this. Let us do all that we can thus to bring about the elimination of the box hive and its attendant evils.

Reynoldsville, Pa.

[This article was written before Mr. Rea knew that he himself would be a government expert whose business it is to educate the farmer beekeepers. See the article by Mr. Webb, page 1120.—ED.]

WAR ON HOME-MADE HIVES

BY LEWIS L. WINSHIP

E. E. Colien, p. 279, April 1, gave me and my article on home-made hives some hard knocks. As I said in my former article, this subject can be sifted and sifted, but will always be a live topic for a scrap.

Mr. Colien says I made some rather exaggerated statements, which in all probability is true; but if he were compelled to work with such make-shifts for hives as the one referred to in the photograph accompanying my article I think it quite probable that he would vent his wrath on would-be carpenters.

As Mr. Colien is over seventy he can be forgiven for making his own hives. A man of his age can spend his time doing so when he could not otherwise do heavy work. We are living in the twentieth century, a century of specialization. We do not, as formerly, raise our own sheep, shear them, card the wool, and spin it into yarn. We still raise sheep; but the wool is sold and bought back in the shape of yarn or in the finished garments. It is the same with

lumber for hives. Progressive beekeepers sell their lumber and buy it back in finished hives from some reliable manufacturer. By doing this they save themselves worry, annoyance, a lot of wasted lumber, time, and the necessity of buying expensive tools. The majority of large and successful beekeepers buy factory-made hives. If you still do not believe me, take a look around. I'll bet that you'll find the really successful beekeepers buy factory-made hives.

I know of only one man, an excellent carpenter, who makes his own hives, and he buys his frames. His hives are as well built and as perfect in shape as any factory-made hive. But he told me himself, and I quite agree with him, that he lost money on every hive he made if he counted his time worth anything. His lumber, the finest 7/8-inch white pine, cost him nothing, so really all he had to figure was his time. But if a man conscientiously goes at it to make a thoroly good up-to-date hive he must focus all his attention on that one thing. This

man to whom I refer has nothing to do most of the time, and can profitably spend his leisure time making hives; but the average man who keeps a few bees, and whose business is not extensive enough to take all his time, and who is working by the day for a very meager wage, had better work for that wage rather than to knock off to make a few hives. He can buy what hives he wants cheaper than he can get ready to make them. And a beeyard of factory-made hives well-painted is an advertisement not to be slighted.

There are some beekeepers who could not make a success of their chosen vocation with all kinds of up-to-date equipment; but if I wanted to make a success, I would certainly start in by using factory-made hives. They are a pleasure to work with, as each part fits so perfectly; they are interchangeable (something few home-made hives can brag of) and they look much better than a grand *ensemble* of home-made freakish-looking, ill-fitting hives which are a drag on the bee-keeping industry and invite foul brood.

Springville, N. Y.

THE VALUE OF EDUCATING THE CARELESS BEEKEEPER

BY ROSS SCOTT

There is nothing more exasperating to the progressive beekeeper than to have some box-hive apiarist as a close neighbor, especially when disease is known to exist in the vicinity. It is a peculiar fact that the majority of these farmer beekeepers think themselves well versed in bee culture, and know positively that there could be no disease among their bees, altho every colony may be in a box as impregnable as the rock of Gibraltar. Of course there are laws which permit the inspector to go thru an apiary whether or no; but as a rule the man with a few colonies resents inspection and regards the procedure as an intrusion on his rights. This causes more or less unpleasantness and hard feeling toward the person who called for the inspection; so, if possible, it is better to approach these stubborn beemen in some other manner.

An interesting case of this kind occurred with me last summer. Near by is a farmer who kept about twenty colonies in as many styles of hives. Disease was known to be present—in fact, the inspector found two or three cases of American foul brood in the summer of 1914; and, altho two colonies

were burned, the owner did nothing with the rest. So I decided this spring that, in self-defense, I would either buy the bees outright or get control of them somehow. To make the matter more difficult, the beekeeper in question had put together the two facts that his bees had been inspected, and that he secured no surplus in 1914, and therefore concluded that the inspector and myself had tampered with his bees to spoil his honey crop. However, after considerable bargaining it was agreed that I should trade some modern hives for a part of the bees, and shake all just at swarming time, thus controlling the swarms and treating the disease at one operation.

Well, the plan worked; and in addition to getting the bees all in modern hives and cleaning up the disease we each secured a fair surplus in spite of the poor season.

Now, instead of being suspicious of inspectors and modern methods, my neighbor is anxious for the time to come when he may have the inspector back to go thru his colonies, and also those of some other beekeepers who live within range of his yard. No more box hives for him.

La Grange, Ind.

APIARY INSPECTION VS. EDUCATION

BY WESLEY FOSTER

The remarks of the editor, and the ideas of Mr. Ames, expressed on page 468, June 15, concerning "Education vs. Inspection," bring up some matters of vital interest to beekeeping. It appears to the writer that Mr. Ames enlarges upon the efficiency of education and minimizes the educational value of the inspection work.

The capable inspector in his work has the support and co-operation of the great

majority of the beekeepers in his district. Probably there is not over one beekeeper in ten but that considers the inspector a helper, friend, and adviser. In most counties in Colorado it is not necessary to show any authority whatever in the matter of cleaning up, but the power is there and is recognized.

It has been my experience, time and again, that the owners of diseased bees

express regret that their bees were a source of infection for their neighbors' apiaries, and they help the inspector to clean up the infection. In nine cases out of ten the cleaning up is done without any compulsion on the part of the inspector. After inspection has been in progress for several years the beekeepers learn the value of it and look for the coming of the inspector with pleasure, as he is usually better informed and can impart valuable beekeeping information. There is a small class in every community who object to what they consider interference with their private affairs, and this class *might* not be particular about spreading disease among their neighbors' bees. The fear of this is greater among some beekeepers than there is any foundation for. In a very few cases it doubtless has been done, but in no case should it deter the inspector in effecting a clean-up. If an inspector finds an apiary in a rotten condition at a time of year when robbing is being done, the procedure generally followed is to stay in the yard until no infection is left that the owner might use in spreading infection maliciously among his neighbors. The average man who neglects his apiary to such an extent does not value highly the diseased material that is destroyed. The aim of the inspectors is to help the owner rid his apiary of disease for his own protection as well as that of his neighbors.

Stock inspection, dairy inspection, and fruit inspection have been carried on so thoroly that the farmers are not opposed to inspection work. If they are persuaded that the inspector is competent and conscientious, the work is not difficult.

An inspector who succeeds is diplomatic and educational in his methods; but the beekeepers realize that he is backed up with sufficient authority if he needs it, and authority has to be shown in very few instances.

There is a certain amount of bluff in us all; and it is amusing to watch some people try to bluff the inspector, endeavoring to find out whether he means business. I have had farmers tell me that they would not do as directed unless they had to; and when told that that would be necessary for them to do the same as their neighbors were doing they agreed to it without any more objection. One man told me he wanted to know what authority I had, because he was not going to do any more than he had to; and when thru with my instructions he laughed and said he was just trying me out.

A few bonfires, where cleaning up is not promptly done, have a very beneficial effect, for the whole neighborhood soon hears of it.

In burning diseased material, we always endeavor to save anything of value that is possible. Thoro work, even tho it may seem rather destructive, gives the most lasting satisfaction, and these districts are the ones where the inspector is most appreciated in succeeding years.

The inspectors do in many counties examine nearly every apiary in the county, and the educational value of talking with and advising beekeepers is greater than can ever be reached by any other plan. But a small percentage can be reached thru institutes—we need both methods—but the personal contact of the inspector with the beekeeper is pretty much the same as that of the county agricultural agents advising with the farmers. More personal contact and less farmers' institute work will meet with better results than more extension work and less inspection work. We do need better-trained inspectors, and a combination of educational endeavor with the inspection work is advisable. The actual meeting with the beekeeper in his own apiary by the inspector is the great strength of the inspection work. The inspector should have time to demonstrate the best methods of disease treatment, and also some of the best beekeeping methods.

One of the most helpful ways is for one beekeeper to get several of his neighbors together and look over their bees together with the inspector, compare notes, and have a miniature field meeting right there.

There are several ideas expressed by Mr. Ames that should be answered. The careless beekeeper will never be eliminated. The stray swarms are caught about as fast as foul brood cleans them out. Thoro inspection is keeping disease under control where the majority of the beekeepers are of the careless variety. A few learn from the inspector, but the majority have too many other irons in the fire to pay much attention to bees.

Mr. Ames' idea seems to be that educational effort should supplant inspection laws and inspection work. If he really thinks this, as the editor's quotations lead one to believe, it cannot be too strongly condemned. We must improve the inspection methods, so they will be highly educational; but the individual responsibility of the beekeepers to the welfare of their neighbors yet needs enforcement. We could get nowhere if we tried to enforce our city health ordinances by educational methods only. There must be power behind any effective effort, whether it is bee-disease control or international treaties.

Boulder, Colo.



The first meeting of the beekeepers in Burke Co., N. C., at the apiary of L. E. Webb, Morganton, N. C. A splendid lecture and demonstration was given by G. H. Rea, just recently assigned to the state. Mr. Rea made such a hit that his spring trip will be anxiously awaited. The good results of his work are already being felt and a county association is under way.

GOVERNMENT EXTENSION WORK IN NORTH CAROLINA

BY L. E. WEBB

While North Carolina ranks high in the number of colonies in the state it is far below in the production of honey, due to the fact that so many bees are neglected, being kept in box hives. Furthermore, a great deal of the stock is black, and weak at that.

Mr. Geo. H. Rea, the new government expert, is making a hurried trip over the state to get familiar with the different conditions in the mountains and lowlands. We did not have a chance to advertise his visit at Morganton the first week in October; but nevertheless we had a nice field-day meeting. Mr. Rea gave an excellent demonstration and lecture in my apiary. A county organ-

ization is to be formed. Mr. Rea made a hit with the beekeepers, and every one is much elated over the fact that the state is to have him permanently. His headquarters are at Raleigh.

Mr. Rea is enthusiastic over the prospects and possibilities in North Carolina. His first great task will be to bring about the use of modern methods and equipment. He has issued a warning that, owing to the extremely wet season, at least half of the bees in western North Carolina may die this winter unless they are fed to supply stores to carry them over.

Morganton, N. C.

A GOOD SHOWING FOR COMBLESS BEES FROM THE SOUTH

BY S. H. BURTON

The past season has been one of the very best from the standpoint of honey production and increase. Bees are going into winter quarters in excellent condition with plenty of stores of clover, bluevine, golden-

rod, and some aster honey. The early frosts stopped work in the supers and sent the bees scurrying to the brood-chambers to hold the heat necessary to protect the brood. I have just finished taking off all

supers today, Nov. 8. The weather is mild, and the temperature is around 70° F. The bees are flying well, and are still working on a little aster that was protected in sheltered locations.

A sharp freeze or two does not seem to hurt the flow of aster. I found considerable nectar in the unfinished sections we removed today. As this aster honey granulates quickly it is a puzzle to know just what to do sometimes with these nice unfinished sections partly drawn out with some nectar in the combs. It is pure waste to try to carry this honey over in the uncapped sections, as it soon granulates; and if put back on the hives next spring the bees carry it out and dump it in front of the hive. If the foundation is pretty well drawn out and filled, but not capped, we cut it out immediately and sell it to the home trade to be used up as quickly as possible. If the foundation is only about one-third drawn, and contains some nectar, I figure that the comb in its present shape is worth more than the nectar contained therein, and we usually carry these over to be put back on the hives next spring as bait sections. Aster yielded very slowly this fall, and was extremely late in blooming.

Bluevine in the river-bottom cornfields made an excellent yield of pearl-colored honey, and our beekeepers here are looking more and more to this plant as a main crop yield. It stays in bloom fully as long as white clover, and I believe it is a better yielder, not being subject to the whims of the weather as much as white clover. There is no killing this plant out in our river-bottom cornfields, and it is held in check only by the cultivator. The minute the corn is laid by, which is usually about July 15, this plant commences to

climb the cornstalks; and by Aug. 1 it is winding around the young ears of corn, and reaching across the rows shaking hands with its neighbors. By Aug. 15 the plant is in full bloom, and continues to bloom till frost. It is very tender, and the first light frost puts it out of business for another year. I moved the greater part of my yards to the bottoms this summer in order to catch this yield. Thousands of acres of river-bottom cornfields give unlimited pasturage, and I consider this plant more valuable than sweet clover as a honey-plant.

This season I tried the experiment of sending south and buying one-pound packages of bees and queen; and I wish to say that I am well pleased with the results. Fifteen one-pound packages were purchased, and, barring an accident to one package, they all built up to good strong colonies and yielded considerable surplus. However, one swallow does not make a season, and I would not advise amateur beekeepers to go at this proposition too strong. Several factors must be considered in the results which I obtained. In the first place I believe I received an extraordinarily good lot of bees. They were very gentle and great hustlers, and they had vigorous young queens. They were put in hives containing drawn combs on which bees starved to death last year. Last, but not least, we had an extraordinarily good season. The bees arrived April 15, just as apple was blooming, and by July 1 these one-pound packages began to store white-clover honey in the supers. They were then moved to the river bottoms, where from one to three supers were secured from each colony. Next year this same stunt might prove an absolute failure, the biggest factors being the queen and the season.

Washington, Ind.

KEEPING COMB HONEY IN FLORIDA

BY E. G. BALDWIN

To be sure! Everybody knows that there is not a whole lot of comb honey produced in Florida—that is to say, by large producers in any great numbers. While no exact figures are at hand, probably not one producer in ten is in the comb-honey business. With the exception of one or two extensive apiarists hardly any beeman attempts anything but extracted.

There are three very cogent reasons for the excess of the extracted-honey production over that of the comb honey. First, the long distance from large markets, or comb-

honey centers. Rates are high and weather often very warm, and distances great.

Secondly, the summers are long, warm, and damp. So, also, during much of the winter season the dampness is in excess, and the weather warm—warm and cool by changes. In such weather, as any beeman knows, combs, full capped, will tend to absorb moisture, and this excess of moisture will cause the honey to become thin, and to bulge the cappings; the result is leaking or “weeping,” as it is termed, or “sweating.”

Thirdly, the wax-moth makes holding-over of combs very hazardous. Not only is it exceedingly problematical to keep combs of honey over from the spring to the fall, but also it is only less so to keep them thru the winter. Our friends north of Mason and Dixon's line know relatively little about the ravages of this pest. In Pennsylvania we have left combs standing in hives, entrances wide open, for three weeks at a time, in midsummer, and have often under such conditions found not a single moth-web. We should like to see any one try that here (rather, we should *not* wish them to try it). Here, three days are enough to infest combs with tiny webs. In a week they will be alive with big fat larvæ—the dull gray larvæ of the wax-moth, with the voracious appetite. In two weeks a hive of empty combs left exposed will be hopelessly ruined, and in a few days additional nothing will be left but masses of webs in galleries and sheets.

The hive-bottom will be half an inch deep with debris, mostly dark-brown pellets, and the side walls of the hives, the rabbets, and the frames, will be built solid with cocoons, so dense and so closely joined that they can be pulled off in solid sheets. The soft pine or cypress wood of the average hive, after such an ordeal, is pitted, scarred, and worm-eaten, till it resembles a dead pine log eaten away by the sawyers or borers. Even the projecting ends of the tops of the frames will be eaten clear thru and break with the least touch.

One can easily see what a problem it is to attempt the keeping of comb honey in such a climate. Not long ago a letter came from an amateur apiarist in the central part of the state. We append a portion of this letter:

In looking over some sections in cartons which I have had in a dark room, and which I was saving for later use, I discovered that the honey was leaking. A careful examination showed signs of webs and worms in every section. I immediately placed the sections in supers, and put them back on

top of a strong colony, to be cleaned up. It is fine palmetto honey, and rather expensive for winter stores.

We wrote back at once about as follows:

I am afraid you have made a mistake in putting the honey on top of a strong hive of bees, if you expect to save any of it for market or table use. I am inclined to think the bees will open many cells, and perhaps "clean out" and remove all the honey, if, as you say, the combs are already leaking. In such circumstances the bees are likely to clean them up with a vengeance.

Then we told him of our experience, and our efforts to keep comb honey six or more months; and while the amount kept at any one time was not great, still the results are satisfactory. So we detail it here for what it may be worth.

We first put the combs into a tight cabinet or case, and kill all live insects or larvæ by a single treatment of bisulphide of carbon, by the usual methods. Then about ten days after the treatment (the combs remaining all that time in the tight box) each case of sections is wrapped in heavy wrapping paper, several thicknesses of it, and in strips large enough to wrap over and fold up all around, under corners, top, and bottom, thereby making a completely moth-proof package. The packages thus wrapped are then placed on a shelf in the kitchen, as near the ceiling as possible, and almost above the kitchen range, where the air is almost always warm and often very warm. We find that comb honey thus treated and preserved will keep intact all winter—no moth, no leaking, no candying. It seems that a specially warmed cabinet could be constructed along lines similar to the plan here suggested, provided the amount of honey were sufficient to warrant artificial heat. We feel confident the plan will work. We have tried it and are still doing it in a limited way.

To recapitulate in an alliterative way, the enemies of our comb-honey production in Florida are miles, moisture, and moths. Deland, Florida.

NATIVE HONEY-PLANTS OF NEW ZEALAND

BY W. B. BRAY

It is a peculiar thing that, while there are no native honeybees in New Zealand, most of the native plants are honey-producing. Honeybees were introduced here by missionaries a hundred years ago, and they thrived exceedingly on the native flora. The following are some of the native flow-

ers of my district. They all help the bees to build up for the clover flow. The fuchsia and the kowhai are the most valuable flowers.

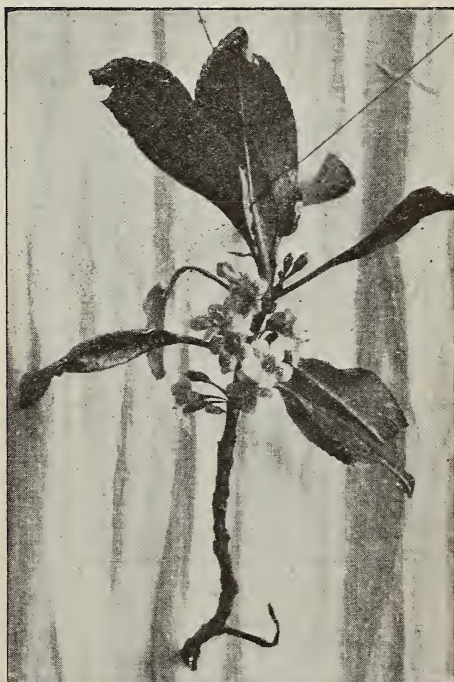
1. *Fuchsia excorticata*.—Maori or native name kotukutuku for tree, and konini for fruit. Shrub or tree 10 to 45 ft. in height.

*Fuchsia excorticata*

Leaves silvery beneath; lanceolate or ovate lanceolate; flowers drooping, one inch long; calyx dark purple, petals red purple; pollen blue; berry oblong; flowering period

*Parsonsia heterophylla*

August to December. This tree is most valuable for its honey and pollen which are a never failing standby in the spring months owing to its long period of bloom.

*Sophora tetraptera**Myoporum laetum*

One of my yards built up wonderfully and stored considerable surplus from this source before clover commenced to yield. It grows best in damp places along the bottoms of gullies and small creeks. I cannot say whether it would stand the severe winter of the middle states. It will stand a certain amount of frost, but I have seen the young leaves cut by a severe late frost. The flower is not as handsome as its South American cousin, but it is more valuable to the beekeeper as a spring stimulant.

2. *Sophora tetraptera*, yellow kowhai, a handsome tree attaining over 40 ft. in height; pinnate leaves; large gold-colored blossoms; trees often bare of leaves in spring; flowers produced in axils of leafless branches; calyx greenish. It blooms in September and October. The tree grows best on dry stony places. It is slow-growing, but produces a very hard and durable timber. The flow of honey and pollen from this source enables us to make an early start with queen-rearing operations. The photo shows year-old seed-pods, and the new pods just forming.

3. *Parsonsia heterophylla*. Native jessamine. This is a climbing plant which produces great clusters of pale-cream sweet-scented blossoms in October, and the bees work hard on it for honey while it lasts. The seed is produced in long pods. A seed with wings can be seen on one pod in the picture.



Muhlenbeckia adpiessa

4. *Myoporum laetum*. Native name *ugnio*. A large tree (30 to 40 ft.) which blooms in October and November. The flowers are inconspicuous. Some years

it yields honey well. It grows readily from seed, and comes up thick after a forest fire. The timber is useless, and cattle often get poisoned by eating the leaves.

5. *Muhlenbeckia adpiessa*. A large rambling climber with very small green flowers which the bees work on in October.



Leptospermum scoparium

6. *Leptospermum scoparium*. — Native name *manuka*, altho it is called *tea-tree* by settlers. This is a sort of shrub which grows on poor soils. The blossoms vary in color from white to pink. There is a tree which has similar but smaller white blossoms. Both varieties bloom in December, and the bees work them both until the clover yields honey. It is not a desirable honey, being dark and strong-flavored, and too thick to extract. The honey in its purity has a strong resemblance to Scottish heather honey. The shrub has been called the New Zealand heather, and a whole hillside in bloom makes a very pretty sight. In some parts of New Zealand fair quantities of this honey are produced, mostly in sections.

Wainui, New Zealand.



J. P. Blunk's Long Idea hives, the size of two eight-frame hives, side by side.

MY EXPERIENCE WITH A SIXTEEN-FRAME HIVE

BY J. P. BLUNK

There has been some discussion regarding extra-large hives and double-story eight-frame hives. My latest plan is to use a sixteen-frame hive which is the full width of two bottom-boards or covers side by side. Notice in the photograph that one of the hives stands on two regular eight-frame bottom-boards, and that it is covered with two regular eight-frame covers. There is room for sixteen frames and a division-board.

These large hives about which I am speaking are fine for comb honey. The first year, however, colonies in these large hives do not make as much finished honey as they do in subsequent years. The large colonies build up faster and soon become the most powerful colonies in the yard. Such colonies store more, of course, than colonies in small eight-frame hives. I usually put on two supers at a time side by side, and I am not afraid later to put another super on top of each one as there are bees enough to fill four supers and then some.

If not looked after, the large colonies will swarm; but the treatment to prevent swarming is somewhat different from that applied to colonies in smaller hives. In a large hive there is always plenty of room. One can remove a comb of honey from the far end of the hive, and by so doing make

room for a comb of sealed brood, the space provided by the removal of this brood being filled with a frame of foundation. Room can be made at each end of the hive in this way; but when combs of brood are pushed to the outside it is important to see that they do not contain larvæ small enough for building queen-cells. Such combs are so far at one side that the bees sometimes take delight in building queen-cells on them about the time the white-clover season ends.

I have the entrance of each bottom-board open full width, thus providing an entrance the entire width of the double hive. These large colonies need a lot of ventilation, and no wonder, for there are so many bees. Some of these large colonies are ready to swarm as soon as those in small hives. I never saw big rousing colonies until I had these large hives.

When it is time to carry the hives into the cellar two boys can carry one of the big ones by means of the long handles extending out at each side, and do it easier than a man could carry a single eight-frame hive.

If a double-story eight-frame hive is used, and the bees are crowded down into a single story when supers are put on, then is when the trouble starts, as this procedure is so likely to cause swarming. By the plan I

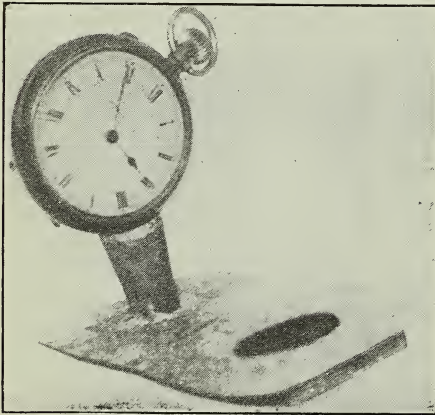
have described, this danger does not exist; but I know one can secure more sections from such a hive than from a two-story

eight-frame hive. I find it necessary to require these large colonies every year. Moorland, Iowa.

COUNTING BEES AUTOMATICALLY

BY DOUGLAS D. BREARLEY

The engraving shows my "bee-meter" which I made out of an old watch. Before describing it I might as well say that it is not a complete success. As you will see, it works on the principle of a bee-escape; but instead of the bees passing between two side springs they pass under one spring which is suspended, near the inlet hole, and which terminates at the center of the neck in a narrow passage. Attached to the end of the spring is a rod which works the small lever of the watch, the wheel with the hairspring being, of course, removed. The bee, in passing under the spring, lifts the rod, which springs back into place immediately after the bee has passed. The lever has to be lifted 150 times to register one minute on the dial, and to arrive at the number of bees which have passed thru, it is only necessary to multiply the number of minutes registered by 150. Of course it is necessary to remember the former position of the hands.



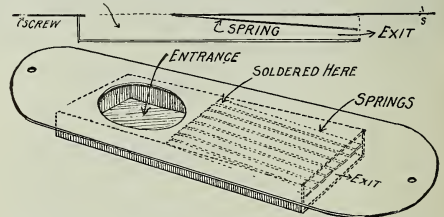
A device for counting bees; 150 bees passing thru the escape cause the hand of the watch to register one minute.

This device works very well when the bees are not in a hurry to get out; but, as is always the case when the bees have been separated from their queen and brood, they are in a great hurry to get out, with the result that they are so close together the spring does not get a chance to come back into place every time. By

altering the shape of the spring that fault was done away with, but another equally bad was encountered. One bee would sometimes register twice, once for the thorax and once for the abdomen. And so it stands, a novelty, but of no practical use until, perhaps, some beekeeper with the skill of a watch-maker completes the job.

A NEW MULTIPLE-EXIT BEE-ESCAPE.

My efforts have not been quite in vain, however, for my meter gave me an idea for a bee-escape which is a great success. The



details are plainly shown in the drawing. With this escape I have cleared a crowded super in two hours. There is not much chance that it can be blocked by dead bees.

Subiaco, W. Aust., Dec. 8.

[An escape having two exits is certainly very much safer than one having only one. It is a question, however, whether more than two exits are any material advantage. The Porters some years ago demonstrated that a multiple-exit escape is no faster than a single-exit escape. The danger of clogging by dead bees or because of propolis would certainly be reduced; but is there any appreciable danger of this in case of one having a double exit?

The device for counting bees would be interesting if it could be applied to the entrance of a hive in order to record the flight of the bees in and out. If it would work both ways the total result would have to be divided by two, assuming that each bee came back. The number of bees in the hive could not be ascertained in this way, of course, for the young bees would not be coming out; and, furthermore, the field bees would make several trips. But such a device would be valuable if it could be perfected, in order to record the frequency of the bees' flight.—Ed.]

THE DISTANCE BEES FLY

BY LOUIS MACEY

"The distance bees will fly for nectar" has been thrashed over a lot, but just lately I have been wondering if it may not be one of the most promising fields for investigation that we have. For years I have read in the books and journals such a jumble of views, assertions, proof, and "positive proof" that they would easily go 5, 6, and even more miles, do good work at 4 miles, also that they would starve with plenty of nectar-yielding bloom only $1\frac{1}{2}$ miles away, do no good at over a mile, I have been interested and often amused.

But among those who differ so widely are quite a number whose names loom big in beedom, and not at all the kind with whom one might get funny, so I just sighed and laid it up to that inscrutable enigma of "locality" and let it go at that. I also refrained from saying anything about my own experiences, for what's the use?

But now comes Mr. Chadwick, page 149, Feb. 15, 1916, with the firmly fixed idea that any perfectly healthy bee ought to go five miles and even ten; also "proof" that California bees at least will do splendid work at three, four, and five miles, with a strong presumption that the bulk of 60 lbs. per colony came from seven miles away.

Mr. Chadwick says, "If Mr. Baldwin's bees will not go one mile for nectar I am convinced there must be *something wrong with his strain of bees*" (italics mine).

Now that disturbs me; and if, perchance, we have been making a scapegoat of locality and saying "no use" when really the strain of bees has something to do with it—then we ought to know it; for California is not the only place where wide-ranging qualities are desirable. Indeed, I question if there is a single trait for which we have been aiming to breed that is more desirable than the ability or desire or will, or whatever it is, that will lead our bees to extend their flight even half a mile if necessary.

For some one to tell how long or how short a distance his bees will work under his conditions may be interesting to the rest of us, but not very profitable. If, however, some one has observed his bees working further afield than they used to, and if there is reason to believe that this has come about from a change of stock—different bees—rather than a change of pasture conditions, then we find something definite.

We have all noticed that some colonies work better when nectar is scarce than others. Is there a chance that this is be-

cause they range wider and have a monopoly of the bloom the other bees don't get to? My own experience has led me to believe that it is a matter of habit superinduced by locality. Ordinarily my bees do not need to range over a mile; but once or twice the grape bloomed on the Towhead Islands in the river when there was not much else doing. I myself from the river-bank could smell the delicious perfume of it, and I knew it was abundant. The low brushy islands were in plain view of my apiary with no "intervening timber, brush, or hills," but my bees never went after it, tho there was only a mile of land and less than half a mile of water between.

But the most striking instance occurred in 1914 when sweet clover was just at its best and the nectar just rolling in. A terrific hailstorm came down on us from the northwest, and in two hours' time or less there wasn't a blossom nor even a leaf left. Wooden hive-covers were split, and metal ones were all dented. Even the twigs of the trees were beaten off, and all that was left of the sweet clover was a pulp of stems and leaves among the hail, which was some four inches deep over the ground. The paths of such storms are generally comparatively narrow, and at a mile to the south and west there were a few straggling blooms; a mile and a quarter there were plenty, at a mile and a half the sweet clover was practically untouched, and white with bloom. But, tho it is a perfectly level bottom with not a stick or stone intervening, my bees never went to that bloom, and it just made me cross to see them loaf and fight and try to rob, with all that bloom so near.

It certainly seemed as if they lacked ginger; for with the compound eyes and all kinds of olfactories the books tell about they certainly ought to have seen or smelled those blooms; and even if they had gotten their daily grub out there and carried home only one little load a day, it would not have looked so shiftless.

What is the answer? If I could have gotten just then a colony of Mr. Chadwick's bees—used to ranging wide across canyons and barren land—they no doubt would have gone right after that nectar and made my bees ashamed of themselves. Had I gotten one of Mr. Chadwick's queens six months prior, would her bees have "got the habit" of short-range working the same as mine? or would the long-range

instinct have been inherited and persisted? and, if so, how long would it persist under my normal conditions?

If wide ranging is a trait of certain stock, and can be inherited, then I have

never yet gotten any of that kind of stock, tho I have bought queens from many different breeders. Some one else, however, may have had different experience.

North Platte, Neb.

MY SUPERSTITIOUS NEIGHBOR

BY A. B. M'GUIRE

One swarming season my neighbor (whom I will call George) successfully hived a stray swarm of leather-colored Italian bees. I can still see him standing by the old box hive, with a cotton sheet over his head and body, pounding upon the hive and whistling like fury—just a continual whistle, when he would stop to get his breath. After the majority of the bees were inside the hive he got three small stones and placed them on top of the hive, and then went away and left them.

When George proceeded to take the bees home he asked me to help him. We cautiously approached the hive and plugged the entrance; then we gently lifted it and carried it across the fields to George's home.

"George, what did you put those three stones on top of that hive for?" I said.

"For good luck."

"But how can those three stones bring you good luck?"

"It is a great secret which you probably don't know; and if I tell you, no luck will follow, because a woman has to tell a man the secret if good luck is to follow."

"Well, George, I don't believe in anything like that."

"Well, I do, and my grandfather did, and he always had good luck with bees."

"If you have good luck with this colony of bees will you give me a swarm next year?"

"No, I won't give it to you; but I'll sell it to you for five cents. If I give it to you I shall give away my luck, and I won't do that."

I agreed to this and departed.

As the cold days of winter came, and brought with them great blizzards and zero weather, a death-like appearance seemed to settle over the old hive in George's back yard. There was no sign of life there; but as the dawn of another spring came and brought with it new life for every living thing, the bees awoke from their death-like slumber to take advantage of it.

Swarming season came again, and the bees swarmed. They were successfully hived, and I purchased my first colony of bees for five cents.

George had his lucky stones placed upon

the hive; but before he would let me take the bees he took the stones off and put them in his pocket, saying as he did so that he must not let them go with the bees or he would lose his good luck. Well, I got the bees home at last, and put them in the yard. They did well during the summer, making about fifty pounds of surplus honey; but during the next winter they died. George said something like this: "I thought you would have no luck with them. Now I tell you what I'll do. I will sell you another swarm for ten cents, and also make you lucky with bees."

I agreed to this; and when swarming season came, one forenoon about ten o'clock I happened over at George's place just in time to hear a wonderful racket, and a noise which seemed to come from the further side of the orchard. I hastened around the house and climbed over the fence; and as I looked down thru the orchard a great sight met my eyes, for there at the further side was George and his family pounding old tin pans and whistling as tho they were serenading some newly married couple. "Hello, George, for goodness' sake what is all this noise about?" I asked. "Are you having a serenade all by yourselves?"

"No, I am just trying to hold back these contrary bees. They took it into their heads to leave me this morning; but I guess I showed them a different stunt. This is the best thing that you can do to settle a swarm of bees. You just try it some time and see if it isn't." This was another new one for me; but I said nothing more, and George proceeded to hive the bees. I got them for ten cents—my second colony.

"Now," said George, "I am going to make you lucky with this colony of bees. Here are three stones which you place on top of the hive from west to east and you will have good luck."

The secret was then told to me, which is as follows:

Walk to the east three steps; turn to the south and walk three steps, and with each step to the south pick up a stone. Take the three stones and place them upon the hive from west to east, and good luck will follow.

ECHOES OF THE ILLINOIS BEEKEEPERS' CONVENTION, NOV. 15, 16

BY E. R. ROOT

The Illinois State Beekeepers' Association is the only one in the United States, except one, that enjoys the distinction and the favor of having state aid. The only exception, so far as we know, is the New York State Beekeepers' Association. The Illinois organization first started out with a state appropriation of only \$500, but is now receiving \$1000. A part of the fund is used for state bee-inspection work under the direction of the inspector, Mr. A. L. Kildow, and the rest is used in getting out a stenographic report of the "Annual Proceedings" of the convention, bound in cloth. The organization is making plans to enlarge its scope of usefulness. It is stronger than the National Beekeepers' Association; but numerically it is not so strong, probably, as the Ontario Beekeepers' Association of Canada and the state organization of New York.

The president, Emil J. Baxter, of Nauvoo, Ill., and the secretary, J. A. Stone, of Springfield, were re-elected. The morning session of the first day was occupied by the usual routine, while the afternoon session consisted of reports of A. L. Kildow, state inspector, Putnam, Ill., and a talk by E. R. Root, on establishing a trade-name on honey.

Mr. Kildow, with his score of inspectors, is doing some excellent work, not only in the line of elimination of disease but in educating beekeepers on how to keep bees.

The question-box was a strong feature of the convention. Mr. J. E. Pyles, assistant state inspector, received all the questions, which were then answered by various ones of the convention.

DADANT'S REMARKABLE SUCCESS IN SWARM CONTROL.

On the afternoon of the second day the editor of the *American Bee Journal*, Mr. C. P. Dadant, delivered an address on the subject of swarm control which attracted more than usual attention. The Dadants have for years operated their ten-frame Quinby hives; and while they produce large crops of honey, the amount of swarming they have is phenomenally low. See "Hives" in any edition of A B C and X Y Z of Bee Culture. During the past year, with 525 colonies in such hives, they produced 125,000 lbs. of extracted honey with only 25 natural swarms. The surprising thing is that this low percentage was due not to cutting out cells, but rather to the large hives, plenty of super room,

plenty of ventilation, shade, young queens, exclusion of drones, and spacing the combs $1\frac{1}{2}$ inches from center to center. While Mr. Dadant admits that in the production of extracted honey the swarming problem is less complicated than with comb honey, yet when we consider their crop of honey, and the fact that they waste no time in cutting out cells, we must admit that they have gone away beyond the average beekeeper in swarm control.

A neighbor of his about two miles away operated the regular ten-frame Langstroth hives, and had thirteen swarms from eighteen colonies. While the difference in hives of course does not account for this difference, Mr. Dadant makes the point that a twenty-frame two-story Langstroth hive usually requires a queen-excluder to keep the queen out of the upper story. When the egg-laying powers of a queen are hampered, the colony is more inclined to swarm, he says. With their ten-frame Quinby hive they have little or no trouble from the queen going up into the extracting-supers, for the simple reason that the large capacity of the brood-nest with its large combs is able to take care of a good prolific queen. Such a queen will usually require more than a ten-frame Langstroth brood-nest, and, unless held down by the perforated zinc, she will go above. Mr. Dadant sets forth seven reasons for swarm control.

1. An ample brood-nest and super room.
2. Ventilation, by raising the hive up on four blocks.
3. Providing ample shade by means of shade-boards or roofs.
4. Plenty of empty combs.
5. Young queens.
6. Elimination of drones by cutting out all drone comb and by using only worker foundation.
7. Spacing the combs $1\frac{1}{2}$ inches from center to center in the brood-nest rather than $1\frac{3}{8}$.

On this last point Mr. Dadant said they had been for years using $1\frac{1}{2}$ -inch spacing, not supposing that it had any particular influence on swarm control; but when Mr. Allen Latham called his attention to that one point he began to think there might be something in it, because others using large hives with narrower spacing had a larger percentage of swarming.

President Baxter, who had been for years using the Dadant system, stated that he

secured last season 27 barrels of honey from 72 Quinby-Dadant hives, using the same principles. The number of swarms he had was no larger proportionately in spite of the fact that he did not cut out any cells. His main business is the production of fruit. This was an unusual season for both fruit and honey. Help was scarce, and it was impossible for him to give the bees much attention. All he did was to give more room and shade, and the bees did the rest. If he had been using small hives he could not have done this he argued.

We have always felt that the large hives used by the Dadants were ideal for the production of extracted honey; and we found years ago that by using two eight-frame hive-bodies, letting the *queens have access to both stories*, we practically eliminated all swarming in the production of extracted, and reduced swarming in the production of comb honey, by crowding the bees into one story just at the time of putting on sections. Dr. C. C. Miller follows the same plan.

CARBOLIC ACID FOR RIDDING SUPERS OF BEES.

The question-box called forth a lot of lively discussion, as it always does. Among other questions was the use of carbolie acid as suggested by J. A. Green in GLEANINGS on page 351 for May 1, this year. Some

had not succeeded in driving the bees out of the supers by the use of carbolie acid. Others had found it to be a great success. The fact that some good beekeepers had succeeded rather leads one to believe that there must be something in the method. Doubtless our readers can do well by following out exactly the plan outlined by Mr. Green.

BEES AND FRUIT.

President Baxter, in the course of the discussion, gave some invaluable testimony showing how indispensable bees are as pollinating agents. When the weather is bad, so the bees cannot get to the trees at the proper time, the quality and quantity of the fruit are considerably cut down and Mr. Baxter is mainly a fruit-grower.

One of the active men in the association is Dr. A. C. Baxter, a physician and surgeon, but in no way related to President E. J. Baxter. He is an enthusiastic backlot beekeeper. He gave us some valuable facts on the subject of honey as a food. Later on we hope to present what he had to say on the subject at the convention. Dr. Baxter is a man who knows how to go after legislatures and to get what he is after. The National could well afford to send him down to Washington to get an increased appropriation on the one now granted to the Bureau of Entomology for extension work.

NO MORE SECTIONAL HIVES FOR HIM

BY ALFRED L. HARTL

Five years ago I was persuaded by different articles written on the subject of divisible brood-chamber hives that the hive had merits, so started to test them with a few new swarms hived in them. The results were very satisfactory, for that year was a year of plenty.

The next season, as I desired to increase my apiaries considerably, I formed 250 new colonies in the divisible hives. This has proven to be the greatest mistake I ever made. In a year when bees continue to work thru the summer the divisible or sectional hive does fairly well; but when a year comes with a long dry summer they are down and out. In such years the queens decline in egg-laying, and sometimes discontinue altogether during the dry summer, which consequently weakens the colonies; and when the fall honey-flow comes, which is usually fairly heavy in my locality, the bees will start to deposit the honey in the upper section and in a short time the queen is crowded out of this upper section altogether. As a result these colonies will only hold their own, and the following spring they are considerably weaker than those in the larger hives.

Some advocates of the sectional hives will advise inserting another section with empty combs. This I tried but without good results. Apparently the bees do not hesitate to store their honey above, but it is hard to force the queen to cross the top and bottom bars to deposit her eggs in the second story in the fall when the nights begin to get cool.

There are many other objections to the sectional hives, such as the greater difficulty of finding the queens and the nuisance of burr-combs. Normal colonies will not, as a rule, leave an empty space in the brood-nest; but with the sectional hive in the spring there is a bee-space in the middle of the brood-nest where I usually find a row of drone-cells with brood, which makes the handling of sections or frames anything but desirable. Especially do I find this trouble with the narrow top-bars.

I have tried the sectional hives alongside the regular dovetail hives in my different apiaries for a term of four years, and I have come to the conclusion that in my locality the sectional hive is anything but satisfactory.

Elmendorf, Tex., Oct. 2.

Heads of Grain From Different Fields



THE BACKLOT BUZZER.

Little Rosie, who lives next door, said her teacher promised to bring a tiny dead bee to school tomorrow and by the warmth of her hand bring it back to life again. Rosie says she can do it all right if she uses the same hand she warmed Tommy Smith with yesterday.

AMONG DECEMBER BEES.

BY GRACE ALLEN

These days of war and throneless kings,
And carelessly dishonored things;
These days of tragic lands and seas,
There's comfort in the quiet bees.
There's comfort just to lay aside
This harrowing distress,
And all the things the world has cried
So long in anger or in pride,
Or from its bitterness,
And walk untroubled and at ease,
Alone, among December bees.

The winter, like a frosty night,
Creeps cold across their fields of light,
And all the singing summer hours
Are gone, and gone are all the flowers.
Yet something, dauntless faith or will,
Or hope's far-seeing eyes,
Or instinct (scientific still!)
Yet something, call it what you will,
Has made them very wise.
And I, a self-invited guest,
Find peace and rest—find peace and rest.

And yet these winter ways they keep
Are not indifference, nor sleep;
Within each dusky-hearted hive
Unconquered moods are still alive.
Unceasingly the loyal wings,
Aquiver to and fro,
Keep warmth and life triumphant things,
No matter what the winter brings
Of weariness and woe.
And so beneath the barren trees
I find great comfort in the bees.

The Leather-Colored Were More Resistant than the Golden.

As there is so much written about foul brood and Golden queens I will give my experience. Several years ago I went over into York state and bought 39 colonies of black bees in old box hives. I was told the bees had been examined by the inspector, and pronounced all right. I think they were as they were heavy with honey. I drove most of them into my hives in the cellar. When I set my bees out I put out several hundred pounds of that honey and let all my bees take it in.

About the middle of June I found my bees were not doing well, and there was a terrible stench in the yard. I never had seen any foul brood; but by looking at a little book that Inspector Wright from New York had given me, I saw very soon what the trouble was.

I had about 20 colonies of golden Italians, and about the same number of the leather-colored. The rest were black and mixed. I found almost every colony but the leather-colored had foul brood. I therefore ordered 100 leather-colored queens. Of these I lost but two and they were just what I ordered.

I did not get any honey from the bees, and had to feed a good many; but I have never seen any trace of foul brood since.

C. M. Lincoln.

West Rupert, Vt., May 15.

[Our correspondent does not say which type of foul brood he had; but we assume that it must have been the European variety, as the American would hardly have disappeared in this way.]

Is it not probable that the Golden in question were not up to par?—Ed.]

Starch Paste that is Paste.

Take a little lump starch (about a dessert-spoonful) and mix with as little cold water as is necessary to dissolve it. Now pour on boiling water, stirring briskly all the time until the mixture turns to a bluish color and has the consistency of a moderately dense honey. Now set aside; and when cool remove, skim off top, and if it has set like jelly (which it is sure to do if properly made) you will have the best label or photograph paste

it is possible to get. A little practice will show you when you have used too little or too much boiling water. Of course this paste will not keep more than a day or so in hot weather—a little longer in cold weather—so we find it best to make it only in small quantities and just as required. This paste will adhere to anything and is immune to insect attack. Phil Sommerlad.

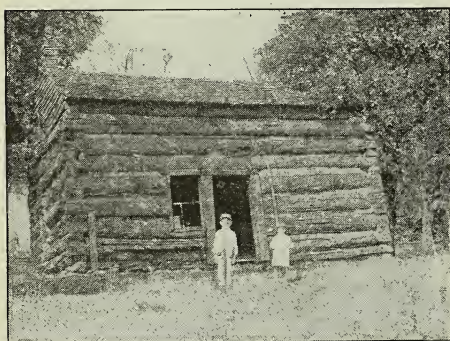
Tenterfield, Spring Valley, N. S. W.

Forty Years of Beekeeping.

I commenced beekeeping in the spring of 1876. At that time I was using the American hive, made by King & Co., of New York city. I now have 120 colonies.



Apiary of J. T. Smith, Bellevue, Mich. Mr. Smith has been a beekeeper 40 years.



Log house erected in 1858, still standing and still serviceable.

The illustration shows the log house erected by my father, who moved his family into it in the fall of 1858. This house is still standing. J. T. Smith.

Bellevue, Mich., Sept. 24.

An Experience in Wintering United Colonies.

I have always wintered in the cellar; but last winter, having read so much about outside wintering I made two boxes of shiplap lumber, each to hold ten colonies, with an eight-inch entrance for each colony. I wanted to make sure that the bees would winter, so I did a good deal of uniting as follows:

I made one colony from two in October by putting one on top of the other; then packed them in leaves ten inches on the sides and top, and three inches in front.

I had eight nuclei that were strong in September, having 33 combs of brood. These I put into four thirteen-frame hives and wrapped them with fifteen layers of newspapers, finally covering with tar paper, and wintering with a full entrance.

I next took five full-sized colonies, wrapped them in double carpeting covered with tar paper, and gave a full entrance.

I put two swarms in thirteen-frame hives, placed one on top of the other, wrapped them in fifteen thicknesses of newspaper covered with tar paper, and gave a full entrance.

Two other swarms were in eight-frame hives. I placed one of these on top of the other, also wrapped them in fifteen layers of newspaper, covered with tar paper, and gave a full entrance.

My idea was that the colonies would be so strong in the spring that they would be in fine condition for clover. In May I reduced the colonies in thirteen-frame hives to one story, to divide them a little later. The other colonies were left in the two stories until May 23, then were divided, and were in good condition for clover.

Carl H. J. Baumbach.

Fall Creek, Wis.

Dead Air vs. Packing Material.

I should like to know the opinion of those who have used both the chaff-packed double-walled hives and the double-walled air-spaced hives as to their results in outdoor wintering and their qualities as a summer hive. Will the moisture gather any worse in the air-spaced than in the chaff-packed hive in winter with a packed super on each?

Freeport, Me.

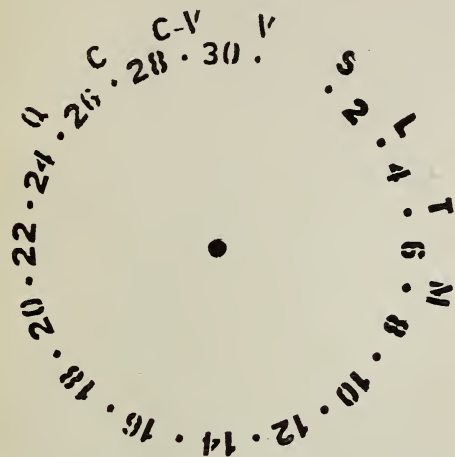
Harold C. Dennison.

[The Bureau of Entomology, Washington, D. C., conducted some experiments to determine the relative insulating value of dead-air space and packing material. The proof was conclusive, showing that double-walled hives using packing were much warmer, much less subject to internal changes of temperature, than the same hives with no packing between the walls. The ordinary beekeeper, unless he has careful measuring apparatus, may not be able to determine the difference; but difference there is, there can be no question. The dead-air spaces are not dead air. When the temperature on the outside drops down the air between the walls begins to circulate. The air next to the outer wall will crowd against the inner wall. This will make the temperature of the wall next to the bees cooler. If, however, the space is packed with chaff, leaves, or planer material, there can be no circulation of air in large volumes, because the air is held in little pockets.

Packing material is so cheap that any beekeeper who would leave it out between the walls would be making a serious mistake.—Ed.]

Stencil Dial for Nucleus Record.

The illustration shows the system that I use for keeping track of twin mating nuclei. I use two on each twin hive—one for each nucleus. These give me the condition



Q, queenless; C, cell; C-V, caged virgin; V, virgin at liberty; S, saw; L, laying; T, tested; M, mismatch.

of the inside in case I place a cell or a caged virgin in before removing the laying queen. I have been trying several plans and I like this the best of any that I have tried. I place two metal hands upon each dial. They are bent so that one passes over the other without interfering. I have a metal stencil for painting the letters and figures on the lids of the hives.

Baldwin Park, Cal.

H. M. Hess.

The Honey Method of Introducing.

Last summer I had several swarms cluster together, and so I had to find the different queens, as the amount of bees—four or five swarms—was too great for any common-sized hives. One queen that I found positively refused to stay in a hive. I then clipped her wings, put a little honey on her—enough to cover her about half—and put her on the alighting-board of a hive from which a swarm had absconded but still contained a few bees. I thought that, if she were accepted, I could then give more bees. On being placed in front of the hive, as she started for the entrance a bee attacked her from the side not daubed with honey. It was getting its abdomen in shape for a sting when about that time its “nose” came in contact with the honey. Of course it immediately forgot all about the queen and went after the honey (then I saw the point). When the queen disappeared in the entrance several bees were hanging on to her; but they were only after the honey. After a while, on going to the hive to see how things were going I found her sitting on the edge of the

alighting-board with several bees licking her off, after all efforts to induce her to remain inside failed.

Having a queenless nucleus I followed the method Mr. Clute gave F. M. Baldwin (Jan. 15, 1915, p. 66), immersing her completely in half a cup of honey and pouring her, honey and all, on top of frames of the nucleus. I watched her disappear between the combs, replaced the cover, and awaited results. The only strange thing about her was that it was at least a week or ten days before she began laying. Of course I do not think that the method of introduction had anything to do with this. I began to think that I had probably clipped an unmated virgin. However, there was soon enough proof that my fears in that respect were groundless. The short time it took for her to build up that small nucleus into a strong colony would seem to show that she was not hampered by the effect of any of her past experiences.

Berne, Ind.

Moody Brenneman.

Moving Bees on a Truck Without Screening.

I have sold my home and bought another, and shall have to move my bees a distance of 21 miles by auto truck. I can make the trip in 2½ hours, barring accidents and bad luck. Will it be necessary to screen the bees at all, or can I fasten them up tight for that distance? I will move them about the middle of next month, and the weather more than likely will be cold.

M. A. Aulick.

Bradford, Ky., Oct. 26.

[You can move your bees on the truck with or without entrance-screens. If the weather is a little cool, all that will be necessary will be to smoke the bees at the entrance to each hive, put them on the truck, and start on the journey. But before the load is started each entrance should be smoked a little, after which the trip can be made. You probably could nail wire screen over the entrances to prevent any bees from coming out, but if the weather should be a little warm and the colonies strong there would be danger that some of them would be smothered.—Ed.]

Some Record.

I had 10 colonies, spring count, increased to 12, which I have at present. I extracted and filled 50 dozen pints (Mason jars); sold 242 sections, also 80 lbs. chunk honey, and have all the honey we shall need until next season. The hives are very heavy. I should think there is not less than 30 lbs. in each hive for the bees to winter on.

I haven't lost a colony of bees for ten years—that is, in wintering, and I lay it to heavy stores. I give them from 30 to 40 lbs. I put a super cover over the brood-nest, then an empty section super, and fill an empty super with ground cork which I get from the stores when they sell grapes, paying 5 cts. for barrel and cork, and I have success.

Dover, Del., Oct. 26.

Wm. Maag.

GLEANINGS FROM QUESTIONINGS

T. C. J., Lake Cicott, Ind. I have some honey that has a queer smell, and it does not taste very good. Do you think it could be honey-dew?

A. Honey-dew honey is usually dark and cloudy—muddy-looking, in fact—and it has a mealy, bitter taste. There are certain kinds of fall honey that are very strong in flavor, but they are usually clear, even tho dark. Honey-dew nearly always looks dirty.

P. S., Epworth, Iowa. I am building a new honey-house with a bee-cellar under it. Will the odor of fresh cement injure the bees?

A. We do not believe the odor of the new cement would injure the bees in any way. The dampness would, provided the temperature remained very long around the freezing-point after the bees were in the cellar. Dampness combined with a low temperature always makes trouble. Probably it would be well to put a little lime about the cellar after you have it finished, to absorb the moisture.

A. G., Ben Avon, Pa. What is the proper weight of a hive—combs, bees, and all—at this time of the year?

A. It is difficult to give even an approximate answer to this question. Notice the different weights that Mr. Doolittle gives in his department in the last issue. You had better not rely upon weighing the hive, for this is too risky on account of the variations in the weight of the hive-body itself—bottom-board, cover, frames, etc. The only sure way is to wait until it is warm enough for the bees to fly, and then look over the combs rapidly. It would have been a good deal better, of course, to make sure about this before the middle of October.

T. C. J., Lake Cicott, Ind. When the white clover first started to bloom my bees went right to work in supers; but we had a spell of cold rainy weather, and they were not able to get out for four days, then as soon as nice weather came they started to swarm. All my queens are clipped, so I cut out all the queen-cells. The bees came out the next day again, so I took away all sealed brood—in fact, I took all combs except one and put in full sheets of foundation instead. That did not stop them from coming out. They came out and went back two or three times a day, and kept it up for four days. I left the supers on; but about all the bees do is to loaf and swarm.

A. (By Dr. C. C. Miller.) The fever for swarming seems to be a sort of cumulative affair. If you do something to thwart them, and it isn't quite enough to stop them, it seems to make bees all the more fierce for swarming afterward, and each move on your part seems only to make them more

determined. Some years ago one of my colonies swarmed, and I took away one or more of its frames of brood. It swarmed again, and again I took away brood; and as it continued swarming I left it each time with less brood, until I had taken away all its brood. Then it swarmed with nothing but foundation in the hive, and the only thing done with the foundation was the building of one queen-cell in which there was an egg! If, after it had swarmed the first time, I had left only one brood, I've no idea it would have had any further thought of swarming. If half its brood had been taken away two or three days before the actual swarming, it might have been sufficient; and if only one or two brood had been taken away when queen-cells were first started, it might have prevented swarming, or at least postponed it.

Years ago it was the rule that a colony never swarmed until the first queen-cell was sealed. Nowadays it is nothing uncommon for a colony to swarm with not a queen-cell sealed, or even with only an egg in a queen-cell. I suspect that the bees follow the same rule as of old, except when the bee-keeper does something in the way of prevention—not enough to stop swarming entirely, but enough to make the bees more and more stubborn.

There seems, too, to be a difference in years. Some years a very little will prevent swarming, while in another year the bees seem to be swarm-crazy. You seem to have struck one of the worst of years in this respect, and may never see its like again.

Now as to what shall be done. First, a "don't" or two. Don't think of doing any good by cutting out queen-cells and leaving the old queen in the hive, after the bees have actually swarmed. Don't count on cutting out cells as a certain preventive in any case. If done before queen-cells are well advanced, in some cases it will delay and sometimes even prevent swarming. Generally it will fail to have the desired effect. Don't leave supers containing honey on the hive containing the swarm. I'm not sure but that was the mistake I made in the case where the bees swarmed leaving empty foundation.

From all this it may be easily understood that the thing to do is to take vigorous steps at the outset, taking away enough brood either before or after swarming so that the bees will feel too impoverished to think of swarming out. That will mean that not more than one brood will be left if it be just before or just after swarming. If no queen-cells are yet sealed, taking away half the brood may discourage the bees from swarming. If nothing beyond quite small larvae is found in queen-cells, it is possible that taking away two brood may answer.

A. I. Root

OUR HOMES

Editor

Eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love him.—I. Cor. 2:9.

Ye shall teach these my words to your children, speaking of them when thou sittest in thine house, and when thou walkest by the way, when thou liest down, and when thou risest up: that your days may be multiplied, and the days of your children.—DEUT. 11:19, 21.

I have before mentioned that, about sixty years ago, when but a boy in my teens, I started out to "educate the people (?)" by going around to schoolhouses and giving entertainments with electricity and chemistry with a home-made apparatus. I have lately been reminded by an old friend of years ago that in one of those lectures I declared that if we had an electric wire clear around the globe electricity would make the circuit in about *eight seconds*. Well, just now our town of Medina is in a sort of jangle in regard to the best method of lighting the village by means of electricity; and there has been so much misunderstanding and unnecessary criticism that my son Huber wrote a lengthy article for the *Medina Gazette* in regard to electricity and the different methods and plans for lighting towns and cities, etc. Well, Huber's talk about "alternating currents," etc., went beyond my depth, and I interviewed him in regard to the matter. A little later a grandson, only sixteen years old, gave his old grandfather some *further* instructions in regard to electricity, especially alternating currents. When I was his age, sixty years ago, I built a little *motor* that would produce an alternating current, but I did not know it. At the time, I thought an alternating current would be no good, and so I spent considerable time and study in converting the alternating current into a direct current.

Well, both son and grandson took considerable pains to instruct me in regard to the advantages of the alternating current. For instance, with this sort of current the electric impulse goes to the end of the circuit and back ever so many times in a second. Wynne says, in fact, that an alternating current ("60 cycle") will go from New York to San Francisco and back again sixty times a second.

Now, that is about all I have to say in regard to electricity just now. I have mentioned it because it emphasizes the fact that particular traits are inherited. Both of my sons and all of my grandsons have inherited more or less my early craze for electricity, chemistry, etc. Last eve-

ning Wynne came over to borrow my little specimen of radium. By the way, I have forgotten to tell the readers of *GLEANNINGS*, as I did about once a year for several years, that "radium *still* radiates." Well, Wynne tells me it has been lately discovered that radium does *not* keep on radiating for ever and ever. He says it has been demonstrated that radium will play out or burn out in about 2500 *years*! So radium is not perpetual motion, after all. Well, now for the moral to the above.

The good traits in the father, as well as the evil ones, go along down thru the generations. Lady Eglantine's disposition to lay eggs, as we might say, everlastingly, bids fair to be inherited not only by her progeny but by her sister's progeny. By the way, I am going to have a big story soon about the way those Eglantine pullets lay eggs. In view of what I have been saying, shall we not still more earnestly *consider* that the things we do while here on earth follow after us away down thru untold generations.

Well, friends, the above is only a preface to what I wish to say in this Home paper. In our issue of Nov. 1 I mentioned three remarkable answers to prayer, and what came of it as the years went by. I am going to tell you still another, which I think I have mentioned already in years past.

About forty years ago, after quite a trade had been built up in queens, tested and untested, and also in queens imported directly from Italy, we had continual trouble about finding somebody fully competent to take care of our queen business. It needed a man who would not only be careful about making mistakes, but one on whom we could depend on being *absolutely* truthful. If he killed a particular queen by carelessness it was of the utmost importance that he should report the full facts in regard to the matter, as letting another queen take her place in order to avoid exposure might do somebody a great wrong. I wanted above all a sincere and *earnest* Christian to carry out my ideas and plans for the queen-rearing apiary. After repeated disappointments, caused, perhaps, a good deal because I could not give the apiary the personal attention it needed, I said one night as we were ready to retire, "Sue, we shall have to ask God to send us, or point out the way for us to find, *somebody* who can take charge of this exceedingly important branch of our business." In fact, I do not know

but I said it was almost the cornerstone of the factory and of GLEANINGS itself. Then we knelt down and I prayed about it; and, if I remember, I prayed with so much faith that I was almost on the lookout the next day for some glimpse of an answer to that prayer. I cannot now remember whether it was the next day or a day or two later, that a letter came reading something like this:

"Mr. Root, I have a very good place to work. I like my work, and my pay is good—better, I often think, than I deserve. But my employers are both profane and ungodly men, and I feel as if I could not stay with them any longer. I am interested in the bee business, and have been reading your journal. If you have a place for me in the apiary I will go and work for you if you give me enough to pay for my board until you think I am worth more."

The letter came from away off in Canada. I showed it to Mrs. Root, and told her it was the answer to our prayer.

Right here I wish to give you something I found in the *Sunday School Times* in our morning lesson. It so completely takes in the idea of prayer that I give it here:

Learn to habituate yourself to taking the least detail of your life's work to the Lord. He loves to be trusted, and nothing is beneath his notice. Take your plans and program for to-day, and lay them in his presence, seeking guidance, wisdom, and grace to carry all out for his glory. This adds a wonderful luster to life.

Of course I told the young man to come on. When he arrived I told him that, instead of discussing the matter of board, we would start him at a dollar a day. But when Saturday night came I said I should be ashamed to make it less than \$1.25. That was a fair man's wages at that time. The next week I said the same thing and gave him \$1.50; and as he made himself increasingly efficient and useful, he kept being promoted, with better pay, right along. Right here I wish to digress a little:

I have not only thanked the Lord for our two sons, but I have thanked him also for our three sons-in-law, who are all good clean men, right up to date, and professing Christians. I could honestly say a good word or many good words for each and all of them; but for obvious reasons I am just now going to confine my remarks mostly to one of them. Before I go further let me mention just one incident in the boyhood of this young Canadian, or this young man of whom I have been talking.

It is not at all strange that, after a time, our oldest daughter, then about seventeen, became interested also in the young Canadian with whom I was so much pleased.

Well, John (for that was his name) used to come up to the house almost every morning before the whistle blew, to get instructions about the duties of the day. One particular morning he stood on the doorstep, and hesitated until I said:

"Well, John, what is it?"

I think Mrs. Root came to the door just then, and then John commenced:

"Mr. and Mrs. Root, you have been very kind to me."

Then he hesitated until I said, "Well, John, we are very glad to hear it. But what brings the matter up just now?"

His bright ruddy face colored up for a little as he went on.

"Why, what I want to say is this: After all the kindness you and Mrs. Root have shown me since I have been with you, it would ill become me to go on with anything that might not meet your approval. Your daughter and I have of late been getting pretty well acquainted."

Then he stopped.

"Well, John, is not that all right?"

"Why, Mr. Root, it is all right if *you* say so. If not, do not hesitate about speaking right out."

I replied, "Well, John, if you and the young lady agree, that is all right; and I want to say furthermore that if I have ever in the past doubted your honesty and sincerity in whatever you do, this one incident dispels all such doubt."

As the years passed by, John, with Ernest, lifted the load from my shoulders, and permitted me to go to California, the Bermudas, Florida, and finally up into northern Michigan to raise potatoes. The business ever since John has been general manager has grown and paid a profit more or less. I have recently made notice of the marriage of Howard R. Calvert, their oldest child, and gave a picture of the baby, the first great-grandchild.

Just recently, on the 55th anniversary of our wedding, Miss Mildred Calvert was also married. Below is a sketch in regard to the wedding, written by our youngest daughter.

The wedding of Miss Mildred Calvert and Mr. Marshall Frye Bryant took place on Friday, September 29, at four o'clock, at the old Root home, now occupied by E. R. Root and family. Miss Eva McNaughton, of Oberlin, sang a selection from the Bridal Chorus from "Lohengrin," accompanied by Mr. Harold Smith, of the Oberlin Conservatory. Jean Boyden, Hall Kellogg, Helen Boyden, Alan Root, Marjorie Ainsworth, and Ralph Boyden held the white ribbons which formed the aisle thru which the bridal procession came. Little Elizabeth Boyden, as flower girl, led the way to the bank of green and white clematis at the east end of the living-room, followed by Katherine Root as ring-bearer. Mrs. Howard Calvert, in white net over pale-green taffeta, was

matron of honor, while Mr. James Hall, of Wooster University, was best man. The bride was beautiful in a white Georgette cr pe gown and a tulle veil fastened with lilies-of-the-valley, and carried a shower bouquet of white rosebuds. She was accompanied by her father, and was met by the groom at the bridal arch where Dr. Fritsch performed the ceremony, using the ring service. After congratulations, a quartette sang a song written by a friend of the family in honor of the wedding and of the fifty-fifth wedding anniversary of Mr. and Mrs. A. I. Root, grandparents of the bride. Then the guests adjourned to the Calvert home, where the wedding supper was served. Later the bride appeared in a going-away suit of navy-blue broadcloth, and the bride and groom said goodbye to relatives and friends. Before leaving, Mr. Bryant, who is a musician of unusual ability, sang "The Serenade," by LaForge. The couple left quietly by auto for the Root cottage on Lake Erie; thence they motored to Toledo and other points in Ohio. Mrs. Bryant is a graduate of Medina High School and Oberlin College. Mr. Bryant is a graduate of Green Bay, Wis., High School, and was a student for three years at Oberlin College and Conservatory.

MRS. L. W. BOYDEN.

The following is furnished by our eldest, Mrs. J. T. Calvert:

Mr. and Mrs. A. I. Root were married fifty-five years Sept. 29. Mr. Root will be 77 next December, and Mrs. Root 75. They have five children, five children-in-law, ten grandchildren, two grandchildren-in-law, and one great-grandchild. All are living, no deaths having occurred in the family in the 55 years of married life, and all are living near them.

The poem mentioned above was composed by Mrs. Borger, the wife of the boy Jacob whom I found almost forty years ago at a mission Sunday-school in Abbeyville, near here. Jacob is now foreman of the ship-ping department in our factory. Here is the poem.

Once, in the days to which your memories roam,
When children's voices rang within this home,
Out from its doors there rushed a happy throng;
Out from each heart there gushed a joyous song;
And thus the hours of every livelong day
Filled were with care for you and us with play.

CHORUS.

Just a song of gratitude for two lives well spent,
Filled with deeds of kindness, labor, and content.
May we ever emulate all your virtues praised,
And maintain the standard your noble lives ever raised.

Even to-day you're young in mind and heart;
What though the milestones give you much the start?
Life's heritage of faith and love and hope
Be ever yours adown the sunset slope;
And thus may we, when life's long shadows fall,
This glorious sunset of your lives recall.

CHORUS.

Just a song of gratitude, etc.
Sept. 20, 1916. NETTA FRASER BORGER.

I have given you the above story to illustrate two important morals. First, the wonderful outcome and far-reaching results as the years go by of one simple little prayer; and that clipping from the *Sunday School Times* hits the case exactly. Second, some trifling incidents in your life may, as the years go by, result in wonderful

transformations years hence. If you resist temptation, and choose the straight and narrow path, and take fast hold on God's precious promises scattered thru his sacred word, no man can imagine or contemplate (see text) what may be the result to *generations yet unborn*.

"WATER-WITCHING" AND THE "DIVINING-ROD."

For forty years or more I have been protesting and fighting the foolish notion that certain people can find water by means of a peach-tree or witch-hazel cross-sticks; and I expect that just now, when some of our subscribers read the words I am dictating, they will bristle up, and, may be, send me statements of what they have seen "with their own eyes." For some time back I have urged that our experiment stations, or, better still, the Department of Agriculture at Washington, should put out a bulletin giving statements from the best and wisest scientific men of the present day; and my wish has finally come to pass. In the *Cleveland Plain Dealer* for Oct. 10 I find an article of something like three columns on the subject. I will quote just the opening and closing paragraphs.

Arthur J. Ellis, a geologist of the survey, has now compiled a report giving the history of the divining-rod from the Middle Ages up to the present day, and exposing all the numerous absurdities in its record. This report is now in the pressroom of the government printing-office, and will soon be available for distribution. The divining-rod is likely to die hard; but the publication of the survey's report will undoubtedly mean the end of a good many professional water-witches in this country. According to the government scientists, nothing has ever been invented to detect the presence of water in the earth but common sense, the possession of which does not depend upon the divining-rod.

Let me repeat in closing what I have said before many times. Science is no respecter of persons. When X rays, radium, wireless telegraphy, etc., were discovered, they all worked with everybody, and especially with real scientific educated men and women. Now, please do not feel hurt, any of you, when I say that the peach-tree switch works with only a few individuals; and these individuals are not "college graduates" in *scientific matters*. In fact, an educated man acquainted with electricity, chemistry, geology, etc., would be ashamed to be seen carrying around a peach-tree sprout. One of the experts along this line when asked how he told the exact depth he would have to dig in order to find water said he did it by hanging a finger-ring on a horsehair loop; and by holding this in a tumbler of water the ring would begin to swing, and strike the sides of the tumbler just exactly the

number of feet he would have to dig, and then stop. I leave it to you, my readers, is there either sense or science in the above rigmorale? Well might the *Plain Dealer* say: "Nothing has ever been invented to detect the presence of water in the earth but common sense, the possession of which does not depend on the divining-rod."

GOATS AND GOATS' MILK—SEE P. 997, OCT. 15.

The following, from the editor of the *Angora Journal*, 306 Davis St., Portland, Ore., will answer a number of questions from many kind friends:

Replying to the latter portion your article in the October 15th issue on goats and their milk, the alkali in goats' milk does not form curds in the stomach as in the case of the acids in cows' milk, hence its superior digestibility. Prejudice against the odor said to be present in goat milk is imaginary; for if two glasses, one containing goats' milk, the other cows' milk, were tested by drinking from each, it would be impossible to tell the difference unless one could detect the richer, sweeter taste of the goat milk. There is no odor to the does, altho the bucks are objectionable in the breeding season. The Nubian breeders claim immunity from this drawback; but the does of all species are free, likewise their milk. Excellent cheese is made from goat milk, several goat dairymen in the West having marketed the product since the rise in price of European cheese. The familiar brands, such as Nonfahat and Roquefort, are made of goat milk. As to the uncouth appearance of which you speak, the pure-bred animals are deer-like in appearance, with alert intelligent expression, and, being harmless, make excellent pets for children. When thus petted they are improved in quality, and increased

flow of milk has been noted. The goat which you noted in Michigan, hitched to a cart, was probably a Mexican or native milk goat, of the straight-haired variety—a very sturdy and fecund animal, much used in crossing the strains of both milk goats and Angoras. A. C. GAGE, Editor.

STILL MORE ABOUT GOATS.

Tell A. I. Root that I should like to pat him on the back and whisper in his ear "good doggie" for that milk-goat write up, October 15. I take three goat papers—all that are published, but have no goats as yet. It is well to study the subject and avoid loss when one gets the goats; also to have a book on goats. A. I. Root should secure some Saanen goats and have better and safer, also cheaper milk. Goats' milk, if used by mothers, would blot out 90 per cent of infant mortality, I think. Raise the "kid" on goats' milk and honey, and have the undertaker's bill reduced 90 per cent. This would help some on the "high cost of living." Anything that spreads disease broadcast over the land is dangerous. That's what cows' milk does. I refer to the "great white plague." Goats are almost free from this disease. If I could get A. I. Root to "rise and shine" once he would soon have some milk goats. C. A. NEAL.

Jonesboro, Ind.

Many thanks, my good friend, for your kinds words; but if you will give us the names and addresses of the three goat-milk publications a lot of our readers will be greatly obliged to you. Ever so many are wanting to know where they can get a periodical on goats and goats' milk.

I should be pleased to have A. I. R. dine with us and be served with a leg of nice fat goat. I think he would view the goat in a different light.

Harrisville, Mo.

D. H. PLANK.

HIGH-PRESSURE GARDENING

TOMATO SEED FOR FLORIDA BY THE HUNDRED POUNDS,

The letter below properly belongs, perhaps, in the Kind Words department; but as it gives a glimpse of the tomato industry both in Ohio and Florida, I have thought best to put it here. In visiting the Florida tomato-fields and admiring the fruit I usually ask where they get their seed when so much depends on the variety in getting crops that go away into the thousands if not the millions. The reply is, almost every time, that they do not dare take a chance on any seed except that grown by the Livingstons. This illustrates the possibilities in any business that is handed down from father to sons, and possibly to the grandchildren. I might add that I anticipated what would happen with Irish potatoes in Florida when they are \$2.00 a bushel here in Ohio. Two different seedsmen who make a business of furnishing

potatoes to plant in the fall were sold out, but I finally secured a peck, and Wesley tells me that my Florida potatoes are up and growing "just fine." Right here my stenographer suggests that Florida is not the *only* place in the country where potatoes "are up."

Dear Mr. Root:—On opening your letter this morning, right glad was I to see the personal signature of A. I. attached to it. I presumed you were in Florida some time ago, and had your winter garden under way by this time.

In this connection why would it not be a good "stunt" to put in a crop of extra-early Irish potatoes as early Ohio or Irish Cobblers, and push them along as rapidly as possible for the northern market? But may be you cannot grow good potatoes in your section of Florida.

Intensive gardening is being adopted and looked into as never before, and this increases the demand for reading-matter on the subject.

I am sending you a packet of Honor Bright tomato, and want you to note the solidity of this variety in its mid-state. The color is a waxy yellow, and reminds me of honeycomb or beeswax. We had an exceedingly productive crop of it on our

muck farm this fall, and it certainly is an extra-long keeper. I had them two and three weeks after picking in the mid-state, and they would ripen up in fine color and quality; and, being so solid, I think they would easily go to Seattle and back to Columbus again by express. The plant has an unhealthy look; but that is natural to it. The quality is fine when well ripened.

Livingston's Globe is our great leader in Florida. We have been sending hundreds and hundreds of pounds to that state the past three or four months.

Our tomato crop was short again this season; but the past two weeks gave us several thousand bushels from late-set plants that we hardly expected anything from when those first frosts came along. I regret I did not send you word to come and see our muck-grown crops, especially tomatoes when they were at their best. This dry summer was just about right for our muck or peat soil farm. Last year was too wet. I think I told you this land was where the wild pigeons used to roost by the millions before the land was reclaimed. It was swamp, and had timber on it.

Next summer you must surely come down (not State Fair week, tho), as I want more of your undivided time. I often recall the time we were at the fair together, and how easy it was for the few folks who had not met you to scrape up an acquaintance. It reminded me of my own experience in meeting people for the first time. In most cases they say, "Oh, yes! I used to buy my seed of your father."

I am enclosing a packet of "Honeydew" muskmelon seed. Be sure to try it, both in Florida and at Medina. We like it very much, and we believe it will leap into general favor at once, as did Golden Bantam corn. ROBT. LIVINGSTON.

Columbus, O., Oct. 27.

NEW IRISH POTATOES IN FLORIDA.

Just after dictating the above I find the following in the Jacksonville *Times-Union*:

The first new crop of Irish potatoes to be shipped from here this season was sent out last week by Oldham & Roberts, to a commission firm in Tampa. The potatoes were grown by John McCreadie on his farm tract in section 25, just north of town. The Tampa firm gave Oldham & Roberts an order for two hamper at their own price, and the price named by the local firm was \$2 per hamper, or 5 cents per pound. Other shipments of Mr. McCreadie's potatoes at these fancy prices were made to a Tampa retail grocer, to a Plant City hotel, and to a Dade City firm.

In the Cleveland *Plain Dealer* for Nov. 11 I notice that Irish potatoes have advanced

from \$1.80 to \$1.85 wholesale. Now is the time for Florida to furnish the great hungry North with new potatoes before anybody else gets on to the racket.

THE DASHEEN UP TO DATE.

With Irish potatoes up to \$2.00 a bushel here in Ohio, it would not be strange if there should be a big rush to plant potatoes, say during the month of November, over a great part of Florida. And then there is another thing that would not be strange: With potatoes away up, and with the wonderful yield that may be secured from dasheen (a tuber that is preferred by a good many even to Irish potatoes), there is a big opening for the dasheen business. Let me repeat: I have grown a heaping half-bushel of dasheen tubers from one hill down in Florida. I think they were allowed to grow and spread a little more than a year; and I expect to find, when I get down in Florida, dasheens growing spontaneously almost all over my clear-off acre of ground. The matter has just come up by seeing quite a lengthy article in the Jacksonville *Times-Union* on the dasheen. I give you only the closing part of it.

As a vegetable for market and home use the dasheen apparently offers bright possibilities of profit for the Southern farmer; but if Southern enterprise will establish plants for the manufacture of this vegetable into flours and breakfast foods that can be sold all over the country, the value of the dasheen to Florida and the South might become, within a very short time, almost unbelievable.

Perhaps I should explain that I write this Nov. 11, just before starting for Florida.

THAT OKLAWAHA CORNFIELD DOWN IN FLORIDA.

We clip the following from the *Florida Grower*:

Eighty-five thousand bushels of corn, valued at \$80,750, were produced on one thousand acres of Oklawaha River muck land near Leesburg.

POULTRY DEPARTMENT

BUTTERCUPS; HOGAN'S DISCOVERY,

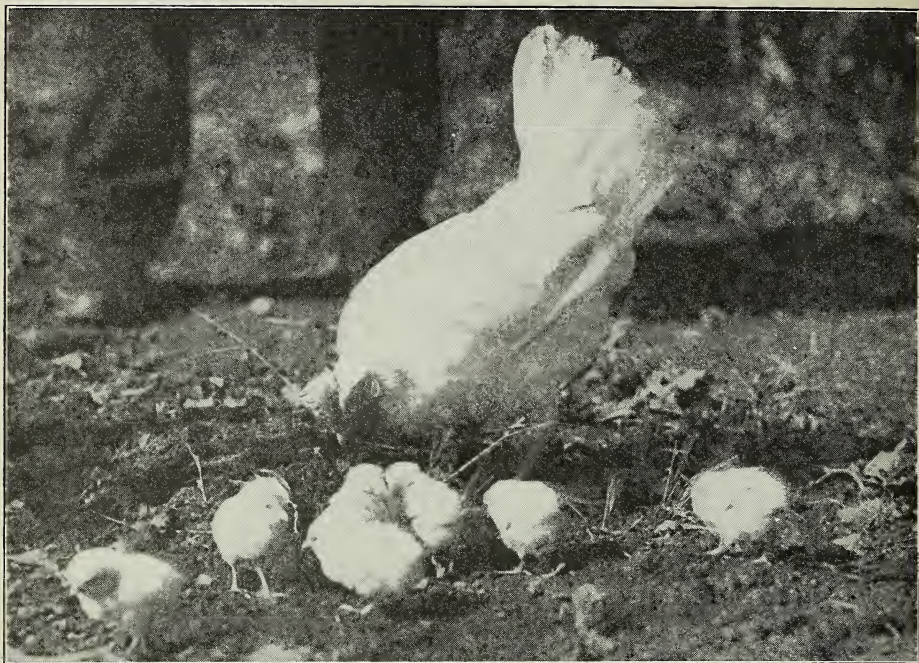
Do you still think the Buttercup fowls the best breed? Can you give me any information on Hoganizing hens? I have had your literature more or less since 1877. B. A. BEMIS.

Dinuba, Calif., Oct. 14.

I decided some time ago that Buttercups were no better layers than the Leghorns; and they certainly have never laid as well as the Lady Eglantine pullets I have been writing about in *GLEANINGS* of late.

In regard to Hoganizing, I believe our

different experiment stations have decided that, while it tells what hens are laying and what are not at the time the test is made, it does not by any means take the place of a trap-nest. Perhaps it may pay you to invest in their book; but the substance of the whole matter has been given thru our poultry journals again and again. I have had a copy of his discovery, that was sold for five or ten dollars some years ago, but I have never made any particular use



"THE YOUTHFUL MOTHER."

The above Eglantine pullet laid her first egg when she was four months and eight days old; and, surprising to relate, she continued laying an egg every day, or almost every day, until she had laid eighteen or twenty eggs, when she wanted to sit; and just for the novelty of the thing I gave her thirteen eggs and let her go ahead. Only nine eggs proved to be fertile; and from those she hatched seven chicks which you see above. The picture was taken when she was only a little over 5½ months old.

of it. When I wanted to sell off some of my old hens I could tell by the Hogan system which were laying at the time and which were not. It's simply measuring with your fingers the distance between the pelvic bones.

When a hen is laying right along regularly the points will be separated the width of two or three fingers. When she hasn't been laying for some time the points of the pelvic bones come almost up together.

TEMPERANCE

SALOONKEEPERS AND THE AUTOMOBILE INDUSTRY.

We clip the following from the *Plain Dealer*. It is dated Toledo, October 23.

Nine saloonkeepers who have enjoyed patronage from Overland Automobile Co. employees are under the ban of Ohio Anti-saloon League agents. A petition to oust the nine saloons from a district embracing the Overland factory was filed in common pleas court today. Overland officials are said to favor the ousting of the saloons.

I suppose every automobile factory, and I might almost say every other factory in the world, feels as the Overland people do about saloons; and yet, as I understand it, our United States of America legalizes or authorizes these fellows to go ahead and

say to the factory owners in substance, if not verbally, "Help yourself if you can."

GETTING DOWN TO BUSINESS.

From the *Methodist Board of Temperance* we clip the following:

The Virginia prohibition law which goes in effect November 1 forbids liquor advertising in all periodicals published within the state.

"GOD'S KINGDOM COMING."

Mr. A. I. Root:—I am very sure you will rejoice with me and many others because our state voted dry. Just think! a solid body of eight states all dry! Isn't it glorious? How little you and I thought when I began taking *GLEANINGS* many years ago that such a thing could come about in the lifetime of you and me! Our town voted dry two to one; the county gave a dry majority of 1700.

Falls City, Neb., Nov. 10.

G. W. SCHOCK.

DANGER MYERS

TREE DISEASE IS PREVENTABLE BY SPRAYING MYERS WAY

FOR SPRAYING PAINTING OR DISINFECTING

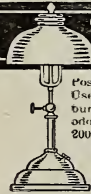
To the man experienced in fruit growing Fall Spraying means healthy trees that will require but little more care the following spring. Fall is the season to successfully fight scale and similar tree diseases by spraying, and you want the best equipment obtainable for this work. MYERS will fill the bill, and whether your orchards are extensive or include but a few trees there is a MYERS OUTFIT that will just fit your needs. Myers Spray Pumps are also adapted for painting, disinfecting and similar work.

The Myers Line includes Bucket, Barrel and Power Pumps and Complete Outfits with such improvements as our patented easy operating Cog Gear Head on Hand Pumps and Automatic Pressure Controller on Power Pumps—You get these and many other exclusive features when you purchase a MYERS.

Write today for large Catalog. It's free and a postal will bring it to your door.



F. E. MYERS & BRO.
NO. 351 ORANGE ST.
ASHLAND - OHIO.



The "BEST" LIGHT

Positively the cheapest and strongest light on earth. Used in every country on the globe. It runs and burns its own gas. Costs no money. No gas and odorless. Absolutely safe. Over 250 styles. 100,000,000 Candles Power. Fully guaranteed. Write for catalog. AGENTS WANTED EVERYWHERE.

THE BEST LIGHT CO.
306 E 5th St. Canton, O.

3 Garden Tools in 1

The **BARKER** Weeder, Mulcher and Cultivator

The only garden tool that successfully, in one operation, kills weeds, and forms a complete soil mulch to hold moisture. "Best Weed Killer Ever Used." A boy with a Barker beats ten men with hoes. Has shovels for deeper cultivation. Self-adjusting. Costs little. Write for illustrated folder and special Factory-to-User offer.

SEE
THE
KNIVES



Barker Mfg. Co.
Box 117 David City, Nebr.

XMAS?

See the December Farm Journal



Getting Ready for Christmas?

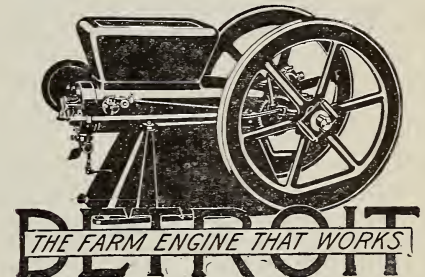
Worrying over what to give, how to give, to whom to give? Read Jacob Biggle's article in the December FARM JOURNAL. His cheery philosophy on the giving question will give you some good pointers; make you smile, too.

Judge Biggle knows farm-folks clear through. Your family will look eagerly for his article every month in the year. Make this chock-full-of-good-things magazine your Christmas present to yourself, the family, your friends. \$1 for 5 years. Refund any time you say. Postal brings sample copy of the December issue and Poor Richard's Almanac for 1917, our Christmas gift to you.

The Farm Journal

117 Washington Square, Philadelphia

Gasoline and Kerosene



Built and guaranteed by the largest producers of farm engines—simple, durable, powerful—four cycle, suction feed, make and break ignition—every part interchangeable—fully tested. Guaranteed to Develop Rated H. P.

SAVES FUEL, TIME, LABOR, MONEY

Lowest Price, Greatest Value

Write for big illustrated Engine Book today

Full Line Detroit Engines 2 horsepower up
DETROIT ENGINE WORKS 373 Bellevue Ave., DETROIT, MICH.
Wadsworth Mfg. Co., Successors

Farms in VIRGINIA OR NORTH CAROLINA

Will provide you with a good livelihood the year 'round. Long growing season makes intensive farming profitable. Fruit, vegetables, poultry and garden truck thrive lustily. Close to the great markets of North and West. Good shipping facilities and low freight rates. Mild congenial climate, excellent roads, schools, churches and neighbors. Rich, fertile, well-watered farm lands in this "Land of Plenty" at \$15 per acre and up. Write for information, booklets, maps and other interesting literature today. Mailed free upon request.

F. H. LaBaume, Agricultural Agent, N. & W. Ry.,

246 N. & W. Bldg., Roanoke, Va.



WHY NOT

Order Your Supplies for Next Season Now?

This last season was an unusual one and beekeepers felt the need of supplies during the honey season. It meant a loss to them if not on hand. Freight this year has been slow for some reason. Why not be forehanded and have the goods on hand when wanted? We try to get goods off promptly but the railroads were slow in making delivery—a month or more in some instances. Goods ordered now carry 2 per cent discount during December. Send in your order just as soon you find out what you require and we will take care of it promptly.

F. A. SALISBURY, Syracuse, New York
1631 West Genesee St.

Seasonable Goods

- Tenement Winter Cases
- Buckeye Bee Hives
- Shipping Cases
- Five-gallon Cans
- Five and Ten Pound Pails

Two per cent Discount on Goods for Next Year's Use

M. H. Hunt & Son, 510 N. Cedar St., Lansing, Mich.



Established 1885

Send for our 64-page free catalog of Beekeepers' Supplies—full of information regarding bee fixtures, etc. Beeswax wanted for supplies or cash.

John Nebel & Son Supply Co., High Hill, Mo.
Montgomery County



4 MONTHS FOR 10¢
Trial Subscription To Fruit and Garden Paper

Tells about planting, pruning, spraying and selling fruit and garden truck.

Ask Us Your Hard Questions,

We conduct this department for the special benefit of our subscribers. Experts answer all questions by mail and through the columns of the magazine.

Fruitman and Gardener, 106 Main St. Mt. Vernon, Ia.

Classified Advertisements

Notices will be inserted in these classified columns for 25 cts. per line. Advertisements intended for this department cannot be less than two lines, and should not exceed five lines; and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

HONEY AND WAX FOR SALE

FOR SALE.—Clover honey of fine quality in new 60-lb. cans. THOS. PHILLIPS, Johnsonville, N. Y.

Light-amber honey, two 60-lb. tins to the case, at 7 cts. Sample, 10 cts. H. C. LEE, Brooksville, Ky.

FOR SALE.—White-amber honey in 60-pound cans, 6½ cts. per pound.
W. B. WALLIN, Brooksville, Ky.

FOR SALE.—A limited quantity of choice stock buckwheat and pure clover honey in 60-lb. cans and 5-lb. pails. C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

FOR SALE.—Pure honey and beeswax—Porto Rico, Cuban, etc.
D. STEENGRAFE, 81 New St., New York.

No. 1 white comb, \$3.50 per case; No. 2, \$3.00; No. 1, fall comb, \$3.00; No. 2, \$2.50; 24 sections to case.
H. G. QUIRIN, Bellevue, O.

WHITE-CLOVER HONEY.—Ripe, extracted from new combs; \$6.00 for 60-lb. can. Sample 10 cts. Prices on large lots.
A. S. TEDMAN, Weston, Mich.

RASPBERRY HONEY.—Thick, rich, and delicious. Put up for sale in 60-lb. tin cans. Price \$6.00 a can. Sample by mail for 10 cts., which may be applied on any order sent for honey. Write for price on large lots.
ELMER HUTCHINSON,
Rt. 2, Lake City, Mich.

HONEY AND WAX WANTED

Beeswax bought and sold.
D. STEENGRAFE, 81 New St., New York.

WANTED.—Comb and extracted honey, in car lots and less carlots. J. E. HARRIS, Morristown, Tenn.

WANTED.—Extracted honey in any lots. Send sample and prices. ED. SWENSON, Spring Valley, Minn.

Beeswax bought and sold. STROHMAYER & ARPE Co., 139 Franklin St., New York.

WANTED.—Extracted alfalfa honey and wax. Send sample of honey.
A. E. BURDICK, Sunnyside, Wash.

BEESWAX WANTED.—For manufacture into Weed Process Foundation on shares.
SUPERIOR HONEY Co., Ogden, Utah.

WANTED.—Several thousand pounds of clover honey, comb and extracted. Send price and sample.
A. W. YATES, 3 Chapman St., Hartford, Conn.

WANTED.—Extracted clover honey in any quantity; send sample and lowest cash price.
E. B. ROSA, Monroe, Wis.

WANTED.—White clover and light-amber extracted honey. Will buy in lots of 1000 lbs. to a carload. Send sample and lowest price.
M. E. EGGERS, Eau Claire, Wis.

FOR SALE

Get our new Rubber Stamp and Label Catalog.
ACME PRINTING Co., Medina, Ohio.

HONEY LABELS.—Most attractive designs. Catalog free. EASTERN LABEL Co., Clintonville, Ct.

SEND TODAY for sample of latest Honey Labels. LIBERTY PUB. Co., Sta. D, box 4-E, Cleveland, Ohio.

FOR SALE.—A full line of Root's goods at Root's prices. A. L. HEALY, Mayaguez, Porto Rico.

Pretty green mistletoe for holidays, 15 cts. per lb., f. o. b. Brady. M. C. STEARNS, Brady, Texas.

FOR SALE.—Circular-saw mandrels, and emery-wheel stands. CHARLES A. HENRY, Eden, N. Y.

WANTED. — Extracted honey, carload or less; send sample.
HOFFMAN & HAUCK, Richmond Hill, N. Y.

Beekeepers, let us send you our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap.
WHITE MFG. Co., Greenville, Tex.

FOR SALE.—Cedar or pine dovetailed hives, also full line of supplies, including Dadant's foundation. Write for catalog. A. E. BURDICK, Sunnyside, Wash.

THE ROOT CANADIAN HOUSE, 185 Wright Ave., Toronto, Ont., successors to the Chas. E. Hopper Co. Full line of Root's goods; also made-in-Canada goods. Extractors and engines; GLEANINGS and other bee-journals; Prairie State incubators. Get the best. Catalog and price list free.

PATENTS

Patents secured or all fees returned. Fortunes made by clients. Patents advertised free. Send data for actual free search. Books free.
E. E. VROOMAN & Co., 834 F, Washington, D. C.

POULTRY

Fine White and Buff Wyandotte cockerels; prices low; must have room. JOSEPH COX, Valencia, Pa.

S. C. Brown Leghorns, good ones. Special cockerel sale. Circular.
H. M. MOYER, Boyertown, Pa. Rt. 3.

POULTRY PAPER, 44-124 page periodical, up to date, tells all you want to know about care and management of poultry, for pleasure or profit; four months for 10 cents. POULTRY ADVOCATE, Dept. 56, Syracuse, N. Y.

\$\$\$ IN PIGEONS. Start raising squabs for market or breeding purposes. Make big profits with our Jumbo pigeons. We teach you. Large, free, illustrated, instructive circulars.
PROVIDENCE SQUAB Co., Providence, R. I.

WANTS AND EXCHANGES

DADANT FOUNDATION MILL.—Will trade for good shot gun. ALBERT PRICE, Nokomis, Ill.

Buffalo robe to trade for White extracted honey. ELIAS FOX, Union Center, Wis.

WANTED.—Honey-extractor, Novice or Cowan. OTTO BENDER, 2813 Osceola St., St. Louis, Mo.

WANTED.—40 to 50 colonies of bees in ten-frame hives. CHAS. H. FOSS, Oswego, Ill.

WANTED.—For spring delivery, 600 colonies of pure Italian bees. Write LEWIS H. FURGASON, Box 108, Windham, N. Y.

WANTED.—600 standard ten-frame shallow extracting-supers in good condition. State price and full particulars in first letter.

COWAN, CARR & LAUDERVALE, Geneseo, N. Y.

WANTED.—To sell an interest in the bee business to some honest ambitious young man who wishes to go into the business in a large way in as good a locality as there is in New York State. Do not write unless you mean business.

THE M. C. SILSBEE Co., Rt. 3, Cohocton, N. Y.

WANTED.—To furnish every beekeeper within 500 miles of Boise, Idaho, with the best and cheapest bee supplies on the market, *quality considered*. Send me your order or a list of your requirements for 1916. Our catalog and price list will be mailed to you free. Order early and get the discounts.

C. E. SHRIVER, Boise, Idaho.

REAL ESTATE

FOR SALE.—My home in Redlands, Cal. Will include bees if desired.

P. C. CHADWICK, Redlands, Cal.

Business Opportunity. \$5000 ideal bee, poultry, printing, and mail-order location for \$1500. A genius can add \$1000 and get \$8000 value; 37 descriptive pages free.

W. H. GARDNER, Roxabel, Ohio.

A small farm in California will make you more money with less work. You will live longer and better. Delightful climate. Rich soil. Hospitable neighbors. Good roads, schools, and churches. Write for our San Joaquin Valley illustrated folders free. C. L. SEAGRAVES, Industrial Commissioner A. T. & S. F. R'y, 1934 R'y Exchange, Chicago.

THE SOUTH FOR FARM PROFITS. Why not look for a farm home in the South? Farm lands, for time and money invested, pay larger profits than elsewhere. Two to four crops a year, good yields; best prices for products. Good locations in healthiest, most pleasant districts, \$15 an acre up. Write for our literature and the special information you wish. M. V. RICHARDS, Ind. and Agr. Comm'r, Room 27, Southern Railway, Washington, D. C.

BEEES AND QUEENS

Finest Italian queens. Send for booklet and price list. JAY SMITH, 1159 De Wolf St., Vincennes, Ind.

Well-bred bees and queens. Hives and supplies. J. H. M. COOK, 84 Cortlandt St., New York.

My choice northern-bred Italian queens are hardy, and will please you. Orders booked now for spring delivery. Free circular. L. L. BARBER, Lowville, N.Y.

FOR SALE.—Golden Italian queens that produce golden bees; for gentleness and honey-gathering they are equal to any. Every queen guaranteed. Price \$1; 6 for \$5. WM. S. BARNETT, Barnetts, Va.

FOR SALE.—80 colonies of fine bees at Tularosa, N. M.; good location; good place to live, because owner deceased. Address N. B. DEWITT, care of E. P. & S. W. Ry., Douglas, Ariz.

QUEENS.—Improved three-banded Italians, bred for business, June 1 to Nov. 15, untested queens, 75 cts. each; dozen, \$8.00; select, \$1.00; dozen, \$10.00; tested queens, \$1.25 each; dozen, \$12.00. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Rt. 3, Williamstown, Ky.

TENNESSEE-BRED QUEENS.—My three-band strain that has given such universal satisfaction for over 40 years. Orders filled promptly or money returned by first mail. 1000 nuclei in use. Tested, in June, \$1.75; untested, \$1.00; in July, \$1.50 and 75 cts. Postal brings circular.

JOHN M. DAVIS, Spring Hill, Tenn.

FOR SALE.—20 hives of Italian bees somewhat mixed with black, but good color, in good condition; modern 8-frame hives. Mrs. H. A. MOODY, 807 N. Wood Ave., Florence, Ala.

FOR SALE.—Italian bees, 1 lb. with queen, \$2.25; one-frame with queen, \$2.00. Queens, 75 cts. each. Safe delivery guaranteed; 30-page catalog with beginner's outfit for stamp. THE DEROY TAYLOR Co., Newark, N. Y. (formerly Lyons).

My bright Italian queens will be ready to ship April 1, at 60 cts. each; virgin queens, 30 cts. Send for price list of queens, bees by the pound and nucleus. Safe arrival and satisfaction guaranteed.

M. BATES, Rt. 4, Greenville, Ala.

Phelps' Golden Italian Queens combine the qualities you want. They are great honey-gatherers, beautiful and gentle. Mated, \$1.00; 6, \$5.00; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. PHELPS & SONS, Wilcox St., Binghamton, N. Y.

Golden Italian queens that produce golden bees; the highest kind, gentle, and as good honey-gatherers as can be found; each, \$1.00; 6, \$5.00; tested, \$2.00; breeders, \$5.00 to \$10.00.

J. B. BROCKWELL, Barnetts, Va.

Queens for requeening. Best on market. One untested, \$1.50; 12, \$12.00; one tested, \$2.00; 12, \$18.00; one select tested, \$3.00; 12, \$24.00. Special low price on 50 or more. Write. Safe delivery and satisfaction guaranteed. THE J. E. MARCHANT BEE AND HONEY Co., Canton, Ohio.

SITUATIONS WANTED

WANTED.—Position in an apiary in the South, Southwest, or West. FRED E. OSBORNE, Ahearn, Florida.

WANTED.—Situation by experienced beekeeper in Washington, eastern Oregon, or southern Idaho. A. WENDTE, 211 N. 9th St., N. Yakima, Wash.

WANTED.—Situation by a young man of clean habits; have had five years' experience in the bee business, and wish to manage outyards or run bees on shares. Address APIARIST, Box 115, Clint, Tex. 71533

Convention Notices

The annual meeting of the New York State Association of Beekeepers' Societies will be held in the Courthouse in Canandaigua, N. Y., Dec. 5 and 6. F. GREINER, Sec.

PROGRAM OF ANNUAL MEETING OF WISCONSIN STATE BEEKEEPERS' ASSOCIATION, THURSDAY AND FRIDAY, DECEMBER 7 AND 8, 1916. AT ASSEMBLY CHAMBER, STATE CAPITOL, MADISON.

Thursday Morning: 9 A. M.—Social Hour. The Secretary will receive dues at this time. Call to Order. Reading Minutes of the Last Convention. Reading Secretary's Report. Reading Treasurer's Report. Action on Reports, Appointment of Committees, and Other Business. Report of Inspector of Apiaries. Questions, Discussions, and Other Business. Adjournment to 2 P. M. Thursday Afternoon: 2 P. M.—President's Address.—N. E. France, State Inspector. Bee Work at the University.—C. W. Aeppler, "In Charge of Queen-rearing." Instruction in Apiculture at the University, By Mr. Moe.—"One of the Students." Discussion. Extension Work in Beekeeping.—Dr. E. F. Phillips, In Charge of Bee Culture Investigations, Washington. D. C. Establishing a Trade Name for Honey.—E. R. Root, Editor "Gleanings in Bee Culture," Medina, Ohio. Election of Officers for the Ensuing Year. Discussions and Questions. Adjournment to 9 A. M. Friday Morning. Friday Morning: 9 A. M.—Marketing Honey.—Edw. Hassinger, Jr., Greenville, Wis. Better Beekeeping.—Mrs. Wm. Haberman, vice-president, Lodi, Wis. Beekeeping in

Northern Wisconsin.—G. C. Chase, Rhinelander, Wis. State Fair.—A. L. Kleeber, Reedsburg, Wis. Co-operative Honey Advertising.—G. W. Williams, Redkey, Ind., Secretary United Honey Producers. Discussions. Questions and papers not received in time, of which we are looking for several. Five-minute Talks and Discussions.—Conducted by A. C. Allen. Beekeepers are urged to bring anything new they have learned or have done during the year, of special interest to themselves, before the meeting for mutual information and discussion. Closing Business. Adjournment. The order of the program, and presenting of new topics, will be changed if necessary, at the discretion of the President, Mr. N. E. France.

TRADE NOTES

FURTHER ADVANCES IN PRICES.

The cost to us of some lines of metal and paper goods continues to advance, making it necessary to announce some further advances in price before the issue of our catalog for 1917 now in preparation.

Van Deusen hive-clamps are advanced to 40 cts. for 10 pairs with screws; 35 cts. without screws.

Tinned wire is marked up as follows: $\frac{3}{4}$ -oz. spools, 5 cts. each; $\frac{1}{4}$ -lb. spools, 15 cts. each; $\frac{1}{2}$ -lb. spools, 20 cts. each; 1-lb. spools, 35 cts. each; 5-lb. coil, \$1.50 each.

A further advance of 50 cts. per 1000 is made on safety and folding cartons, plain and printed. Glass for shipping-cases as well as for hotbed sash is advanced to \$4.00 per box. Bee gloves are advanced to 60 cts. a pair. West cell-protectors, 5 cts. each; 45 cts. for 10; \$4.00 per 100; West spiral cages, 10 cts. each; 80 cts. for 10; \$7.00 per 100.

Several of the glass jars will be omitted from the new catalog, also scales which do not meet the requirements in some states.

We have advice from the publishers that Dadant's Revision of Langstroth on the Honeybee is advanced next year to \$1.50 each.

Owing to greatly increased cost of importing we are obliged to mark up the French edition of the A B C to \$2.50.

We have made no advance as yet on hives and other wood goods excepting a small advance on sections in quantities and on shipping-cases, because of the great advance in paper pads.

We find on getting new prices on the paper trimmings for cases that the \$1.00 per 100 added does not cover the increased cost. Lumber has already advanced over prices prevailing the past season; and if we did not already have a good supply in pile we should be compelled to advance prices on wood goods. If the present tendency continues, as seems most likely, higher prices on supplies are bound to come during the year ahead. The wise forehanded beekeeper will anticipate his requirements and order before these advances occur. He can also get these supplies nailed and ready for use before the season arrives when they will be needed.

TIN CANS AND PAILS FOR HONEY.

We have been trying for weeks to get new prices on tin cans and pails for next year, but have been unable so far to get quotations good beyond Jan. 1, 1917. Every indication points to still higher prices beyond that date. Some are protected with contracts good till then. Quotations received good for immediate acceptance only are forty to sixty per cent higher than we paid a year ago; and new prices, still higher than those last quoted, will have to be made. Orders will be accepted only subject to stock on hand at present prices pending new prices to be announced as soon as we receive more definite information.

SECOND-HAND 60-LB. CANS.

We are emptying honey-cans in our honey-packing departments at the rate of nearly a hundred cases a day. We have recently sold three cars of these cans to relieve the pressure on our storage facilities. With the much higher prices already in effect and soon to be still more noticeable it would seem to be economy on the part of producers to lay

in a stock of good second-hand cans, while available for next season's crop, even if not needed at present. While our stock at present is small we are accumulating more so rapidly that we can take care of ordinary requirements. For small lots we make no change in prices—namely, \$4.00 for 10 cases, \$8.50 for 25 cases, or \$30.00 per 100 cases of two 60-lb. cans in good condition to receive honey again. If any one would be interested in carload lots for later shipment we should be pleased to hear from him on such a proposition.

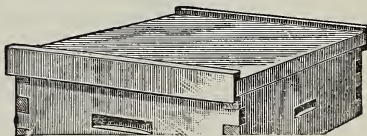
ST. PAUL BRANCH IN NEW LOCATION.

Our St. Paul branch is moving to a new location in the down-town district at 290 East Sixth Street, where they will occupy three floors and basement in a brick block in the wholesale district. This location is only five minutes' walk from the Union Station or from Fifth and Robert Streets, the business center of the city. It is also located near most of the freight depots, and will permit of quick service. With increased storage room and more convenient quarters our manager expects to give better service than in the past.

CHANGE AT SAN ANTONIO, TEXAS.

The Fraser & Harrison Co. is the new name of the company which succeeds the Tepperwain & Mayfield Co. at San Antonio, Texas. The new men took over the business last July, and have only recently changed the name. Mr. W. G. Fraser, the active manager of the new company, is the son of a retired banker, one of the early residents of San Antonio—a young man of pleasing address, who is making many friends in his new connection. We believe the company has greatly assisted beekeepers in disposing of their honey this season, and merits the support of the beekeepers of southwest Texas. They continue to operate the Weed foundation machinery.

FLAT COVERS CLEATED.



Some time ago we had made up for us a quantity of the old-style flat-board hive-covers cleated on the end as shown above. These are made of Mexican white pine; and instead of being of one wide board they are made up of two or three boards, edge dovetailed together in such a way that they cannot come apart, and are more inclined to lie flat than if made of one wide board. We still have in stock some two or three hundred each of 8 and 10 frame size which we offer, to close out, at \$3.00 for 10 8-frame; \$3.30 for 10 10-frame. For 100 or more the price will be 27 and 30 cts. respectively. They are offered subject to stock on hand at these prices, and should not last long.

FIRE AT THE HOME OF THE HONEY-BEES.

A few minutes after 8 P. M., central time, Nov. 27, a fire of very evident incendiary origin was started in the central section of our lumber yard, and immediately gained such headway that it was with great difficulty confined to that section, which was entirely consumed. This section comprised a metal roof on poles 40 x 180 feet, with twenty-four piles of pine, basswood, and cypress lumber, and two cars on track alongside in process of being unloaded. There was a little more than half a million feet of lumber within the shelter structure, and two railroad cars entirely consumed. Approximate loss, \$20,000, fully insured. The fire ladders did valiant service in keeping the fire from spreading, assisted by a fifty-foot clear space at each end of the burning section.

SUNDAY SCHOOL TIMES.

This is, without doubt, one of the most helpful and interesting family religious weekly papers published. It is particularly helpful in Sunday-school matters. No change in price is announced for the new year. The regular price is \$1.50 a year. In clubs of five-

or more, \$1.00. We shall be sending in our Medina club this month; and if any of our readers not having the opportunity of joining a club in their own Sunday-school or town want to join our club they may do so on the following conditions: The subscription should be sent during the month of December—the earlier in the month the better. Send one dollar along with your renewal to GLEANINGS at one dollar, or two dollars for both. If you send after December, your subscription will be for only part of a year, ending with our club in December, or you will have to pay \$1.50, the regular price for a full year.

HOTBED SASH.

The season is here again when hotbed sash are needed for growing plants under glass during the cold winter months. We are offering our choice quality cypress sash shipped K. D. at the same price as formerly; but the price of glass is higher. The sash as regularly furnished are 3 ft. 4 in. wide, 6 ft. long, for four rows of 8-in. glass slid into grooves in the bars with ends butted together. We also furnish them with bars rabbeted, when so specified, at the same price:

One sash, K. D., \$1.00.
Five sash, K. D., \$4.75.
Ten sash, K. D., \$9.00.
Glass 8 x 10 for same, \$4.00 per box of 90 lights; five boxes at \$3.80.

We are prepared to make special sash to order, including those with double tier of glass. Prices quoted on application, naming style and quantity required.

SECOND-HAND FOUNDATION-MILLS.

We have for sale the following list of second-hand foundation machines which will serve a good purpose for those who want to make up their own foundation. We can submit a sample from any mill in the list to any one interested, on application.

No. 0153, 2½ x 6 hexagonal thin-super mill in very good condition. Price \$14.00.
No. 0156, 2½ x 6 hexagonal extra thin-super mill in fair condition. Price \$10.00.
No. 0165, 2½ x 6 hexagonal extra thin-super mill in fair condition. Price \$10.00.
No. 0183, 2½ x 6 hexagonal thin-super mill in very good condition. Price \$14.00.
No. 0230, 2½ x 10 hexagonal medium-brood mill in fair condition. Price \$18.00.
No. 0234, 2½ x 6 extra thin-super mill in very good condition. Price \$12.00.
No. 0237, 2½ x 6 thin-super mill in fair condition. Price \$10.00.
No. 0238, 2½ x 6 thin-super mill in fair condition. Price \$10.00.
No. 0239, 2½ x 10 medium-brood mill, hexagonal cell, in fair condition. Price \$18.00.
No. 0245, 2 x 10 hexagonal medium-brood mill in very good condition. Price \$18.00.
No. 0247, 2½ x 10 hexagonal medium-brood mill in fair condition. Price \$18.00.

THE A. I. ROOT COMPANY, Medina, Ohio.

Special Notices by A. I. Root

GOOD BOOKS AT A BARGAIN.

In our issue for June 15 we gave a list of good books that we offered at very low prices because they were the most of them, old. The little book *Poultry for Pleasure and Poultry for Profit* that we offered there for 10 cts. you may have for 5. There are only six copies left.

The book *Silk and the Silkworm* that we offered there for 10 cts. you may also have, postpaid, for 5 cts.

Merrybanks and His Neighbor, which we offered for 10 cts., you may have for 5 cts. As the postage will be pretty near 5 cts. there will be no profit; but I think the book may do good. The same with the *Story of Art Smith*, the boy who made a flying-machine. We offered that also for 10 cts. You may now have it (a 25-cent book) for 5, postpaid.

Prof. Cook's book, *Injurious Insects of Michigan*, which we offered for only a nickel, postpaid, you can have for that now, but we cannot very well make any reduction.

We have four copies left of the book *The New Agriculture*; or, the *Waters Led Captive*. It is a \$2.00 book, but as the four copies were damaged by getting wet (but not so much but that it can be read easily), we offer them at 25 cts. each.

T. B. TERRY'S WRITINGS.

Since the death of Mr. Terry, as a matter of course his books (particularly his potato book) are being read with renewed interest. This book passed thru three editions of 10,000 each, and was revised and enlarged a few years ago. The price is 50 cts. in paper, and 75 in cloth—postage extra. We will for the present mail them at the above price, postpaid. See our Book Notices for June 1 for a description. The strawberry book, written not long after the potato book, has also had a great sale, and went thru two editions. We offer it now bound in cloth (former price 75 cts.) for 60 cts.; paper, 40 cts., postpaid.

Not long after the potato book appeared there was so much inquiry in regard to the best methods of growing clover to turn under for both potatoes and strawberries that Terry put out a little book entitled *The Winter Care of Horses and Cattle*. This has heretofore sold at 40 cts., postage extra; but we have so large a stock on hand that we offer it now for only 10 cts.

T. B. Terry's new book, "How to Keep Well and Live Long." Altho the above is a dollar book, by buying them by the hundred we are enabled to make the price 90 cents; and my opinion of it now is just about the same as it was when I wrote the following and placed it in our book list: "The above book by T. B. Terry is, in my opinion, destined to relieve more pain, sickness, and death than any other book in the whole world that has ever come to my knowledge." That is pretty strong language, I admit; but since Terry commenced, years ago, to urge the importance of pure air, pure water, and a simple diet of good simple food, in moderate quantities, the whole wide world, doctors included, seems to be gradually falling in with him. Of course other good and wise men commenced a similar crusade for better health long before Terry did; but he seems to have a happy faculty for getting hold of people and keeping their attention. After you once start in with the book you will be pretty sure to read it to the end, and you will ever after be a better and happier man or woman for having read it." We have a special low price for clubbing with GLEANINGS—that is, both for \$1.50. If you have already paid for GLEANINGS a year or more in advance you can have the book for 75 cents postpaid. Since it first came out, only a short time ago, we have sold nearly 1000 copies.

MISCELLANEOUS HANDBOOKS BY OTHER AUTHORS.

The *A B C of Carp Culture*. While not very much is now being said about carp culture, the directions in this book for making ponds and for other fish, or for other purposes, should be quite valuable. The book sold for 30 cts., postpaid; but as we have quite a stock on hand we now offer it for 15 cts. postpaid.

Asparagus Culture, heretofore 40 cts., we now offer for 25 cts. postpaid.

Alfalfa Culture, same price as above.

Barn Plans and Outbuildings, a very valuable book that sold for \$1.25 which we now offer for 75 cts.

Garden and Farm Topics, by Peter Henderson—a \$1.25 book which we now offer for 50 cts.

Gardening for Pleasure, by Peter Henderson—a \$1.25 book which we now offer for 75 cts.

Gardening for Profit, also by Henderson—a \$1.25 book which we now offer for 75 cts. until sold.

Gardening for Young and Old, by Joseph Harris—a \$1.25 book which we offer for 75 cts., postpaid.

Gregory on Squashes—a 25-cent book, now 15 cts.

Maple Sugar and the Sugar-bush, by Prof. A. J. Cook. The price of this was originally 30 cts., now 25 cts., postpaid.

Manures and How to Make Use of Them—a 35-cent book, now 25 cts.

Nut Culture—a \$1.25 book, now offered for 75 cts.

Small-fruit Culture, by Andrew Fuller—a \$1.25 book which we now offer at 75 cts. postpaid.

Experiments in Farming, by Waldo F. Brown, including directions for making cement floors, etc.—a 10-cent book now offered for only 5 cts.